



Architecture of American Colleges

III.—PRINCETON

Princeton was in its beginnings the most migratory of our older colleges. One might almost call it ambulatory, counting its origin from that of the "Log College" of William Tennent, at "the Forks of the Neshaminy," in 1726. But that were to go back to "the twilight of fable." The real foundation of the College of New Jersey dates from the royal charter of 1746, the same year in which died the founder of the Log College, in which so many of the founders of what is now Princeton received "what colleging was theirs." The ruling motive to "the instructing of youth in the learned languages and in the liberal arts and sciences," was clearly enough the same which prevailed in the founding of Harvard and Yale, the provision of an "instructed ministry," native to the soil. Four of the incorporators were "ministers of the Gospel," as against three laymen. In order to obtain pupils, the incorporators resorted to what, even now, would be regarded as the undignified expedient of advertising for them in the New York papers, or, rather, the New York paper, which they did in February, 1747, announcing the opening of the college "the fourth week in May next, at

Elizabeth Town." Elizabeth was chosen as the home of the first president, Rev. Jonathan Dickinson. When he died, a few months later, there was nothing to keep the college at Elizabeth, and it was moved, with possibly a Thespian cartful of impedimenta, to Newark, the home of the equally Rev. Aaron Burr. Here was celebrated the first commencement, in November, 1748, with a graduating class of six. In the previous September the college had received an enlarged charter from Governor Belcher, who showed a real and enlightened interest in the project. Apparently the young institution was prepared to settle and establish itself at whatever point in the heart of New Jersey, and not too far from the dividing line between the old "Jerseys"—East and West, as they were known, though North and South would be geographically more accurate—might offer the greatest inducements. It made overtures to New Brunswick. But it laid down an ultimatum that it must be provided with "a thousand pounds proclamation money, ten acres of land contiguous to the college, and two hundred acres of woodland"; these latter primarily for fuel, no doubt, and secondarily



Nassau Hall (1756).

Dr. Shippen and Robt. Smith, Architects.

for profit. New Brunswick did not snatch at its privilege, possibly suspecting the strictly Calvinistic theology of the incorporators, and was fain to content itself, some sixteen years later, with the establishment of Rutgers, or "Queens," as a seminary of the Dutch Reformed Church. Princeton, mainly, as it appears, under the lead of Nathaniel Fitz Randolph, a benefactor commemorated in the "Fitz Randolph gates" of the actual Princeton, took the chance New Brunswick had abandoned. The College of New Jersey had found a local habitation, as well as a name, and Nassau Hall, which would have been Belcher Hall but for the modest refusal of the royal governor, began to rise in 1754. It was in all ways a fortunate decision, the more fortunate that Princeton was a Quaker settlement and could not be

supposed to be in sympathy with that rigid Calvinism which presided over the beginnings of Princeton, and is supposed still to preside over its theological inculcations with a rigor not elsewhere equalled. The taint of "Arminianism" may have spread among the Dutch settlements on the Passaic and the Hackensack and the Raritan to the northward. Nay, there was probably more than a "trace" of it in the Dutch settlement to the southward, on the Delaware, among the prevailing "Presbyterians, Quakers and Anabaptists." It is traditional at



East Entrance and Staircase, Nassau Hall.



Faculty Room, Nassau Hall (1906).

Raleigh C. Gildersleeve, Architect.

Princeton that when, at the celebration of the two hundred and fiftieth anniversary of Harvard, Dr. Holmes read his verses setting forth the liberalizing and mellowing influence which Harvard had exerted on her younger sisters, and came to the couplet:

O'er Princeton's sands the far reflections steal
Where mighty Edwards stamped his iron heel,

President McCosh arose and stamped his iron heel, shaking the dust from it on the platform as he stalked indignant

thence. It would require a quantitative analysis of the dust to determine how much it was shaken in indignation at the proposition that Princeton had been liberalized, and how much at the proposition that it was Harvard which had liberalized it. The beloved and venerated "Jimmie" has himself become so much a tradition at Princeton that it gives the present chronicler a sense of antiquity to recall that he witnessed and reported the inauguration and the inaugural of 1868. It was only seventeen years before that that Thackeray had voiced in "Punch" the assumed indignation of young Ireland at the importation of Dr. McCosh from



Fitz Randolph Gateway (1905).
McKim, Mead & White, Architects.

Scotland to the chair of logic in the "Orange" Queen's College at Belfast:

As I think of the insult that's done to this nation

Red tears of riving from me faytures I wash,
And uphold in this pome, to the world's day-
tistation.

The sleeves that appointed Professor McCosh.

On the logic of Saxons there's little reliance
And, rather from Saxon than gather its rules,
I'd stamp under feet the base book of his
science,

And spit on his chair as he taught in the
schools.

Oh false Sir John Kane! Is it thus that you
praych me?

I think all your Queen's Universitees Bosh;
And if you've no neetive Professor to taych me,
I scawurn to be learned by the Saxon McCosh.

However rigid the dogmatic theology
which one sets out to inculcate in this



The Old President's House (1756).
Robt. Smith, Architect.

"sweet and cheerful country," it could hardly help losing some of the asperities which it might retain amid the mountains of Switzerland or of Scotland. As George Alfred Townsend sings:

But quiet nooks like these unman
The grim predestinarian,
Whose soul expands to mountain views.

As a matter of fact, I have reason to believe that an open and avowed sublapsarian might find himself very comfortable as a resident of Princeton, unless, of course, he should take it into his head to become a too-candid candidate for the ministry. It is, at any rate, fortunate that the migratory College of New Jersey did not alight permanently at either of its two first roosts, at Newark or at Elizabeth. One can by no means see a great institution of learning developing along its own lines at either of those bustling and commercialized suburbs. It would long since have been submerged.



"Prospect," the President's House (1849).
John Notman, Architect.



ALEXANDER,

WEST,

CLIO,

WITHERSPOON.

What the learned Dr. Johnson remarks of the site of St. Andrew's he might equally have remarked of the site of Princeton:

St. Andrew's seems to be a place eminently adapted to study and education, being situated in a populous, yet a cheap country, and exposing the minds and manners of young men neither to the levity and dissoluteness of a capital city, nor to the gross luxury of a town

of commerce, places naturally unpropitious to learning; in one the desire of knowledge easily gives way to the love of pleasure, and in the other is in danger of yielding to the love of money.

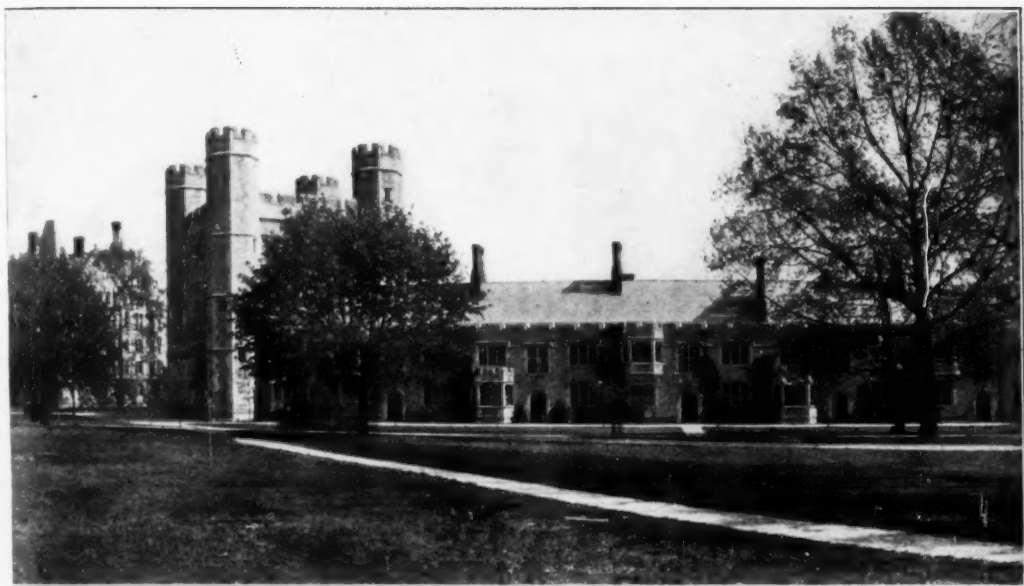
As to the "levity and dissoluteness of a capital city," "Artemus Ward" was able half a century ago, to report with some plausibility that "Harvard College is pleasantly situated in the barroom of the Parker House," whereas to attain even "the gross luxury of a town of commerce," the evasive Princetonian has to undergo an hour's trolleying to Trenton.

Meanwhile, Dr. Holmes's "Princeton's sands" is by no means graphic. It calls up an image of a dreary level, very different from this prettily rolling country, intersected with gently rising, rounded ridges, in the valleys between which flow rivulets crossed with admirable and picturesque old bridges of honest brown masonry, in refreshing contrast to the modern products of pontifical ironmongery. An altogether eligible site for a place of education, "a college situated in a purer air," as Clarendon has it about Falkland's house. Princeton is perhaps the largest American college in so small a town. At all events, it completely dominates the town, to the great advan-



Witherspoon Hall (1877).

R. H. Robertson, Architect.



WITHERSPOON.

BLAIR.

tage of both. No wonder that, what with the charms of the quiet rural landscape and the "purer air," what also with the charm of the "still air of delightful studies," of the atmosphere of culture, lettered ease and refinement, and, finally, with the growing charm of an appropriate and cloistral architecture, all offered within ready reach of New York and Philadelphia, Princeton should have been becoming increasingly popular as a place of residence and retirement for people who find they can live where they will. To quote Townsend again:

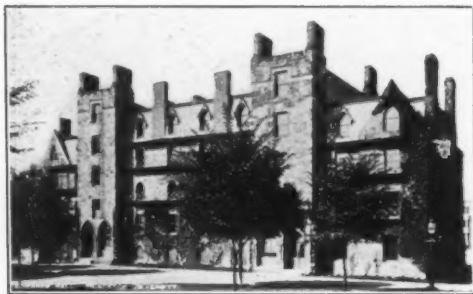
When we have raged our little part,
And wearied out of strife and art,
Oh, could we bring to these still shores
The peace they have who harbor here,
And rest upon our echoing oars,
And float adown this tranquil sphere—

Not all the seekers for a harbor are Princeton men. Witness the memorable exception of Grover Cleveland, who casually visited Princeton, and thereupon, an old man, broken with the storms of state, came here to lay his weary bones among them. But among the returners are also sons of Princeton, who have come back to become the *almi filii* of their alma mater, and to re-

pay with accrued interest the benefits they are sensible of having received at her hands, to become trustees or workers for the university. There is no occasion to offend their modesty by mentioning their names, which are familiar to all Princeton and to all Princetonians. But one cannot pass over such an evidence of the loyalty which Princeton has managed to inspire, and which is manifested by all her children in proportion to their ability. One of the enthusiastic architects



University Hall (1876). (Built for an Hotel.)
R. H. Robertson, Architect.

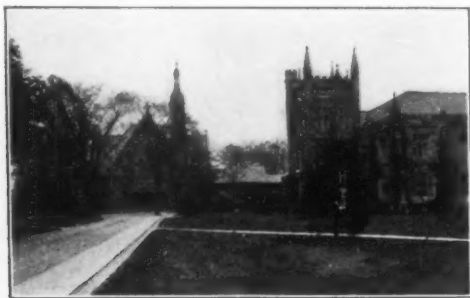


Edwards Hall (1880).

Edward D. Lindsey, Architect.

of the architectural "instauration" now in progress has been overheard in his enthusiasm to observe "There is no Princeton man who will not rob his wife and children for the benefit of Princeton." So much one cannot help feeling and saying, even when he is dealing with the outward and visible signs whereby the inward and spiritual grace of Princeton is made manifest.

One defect in the natural constitution of Princeton has lately been made good by art. The landscape does not, at least did not, include a waterscape. The defect prevented Princeton from making a figure in aquatics comparable with her figure in other branches of athletics. But, by some felicity, it was put into the heart of Mr. Carnegie, who, according to Lord Rosebery, "scatters benefactions as a locomotive scatters sparks," to drop a particularly glowing and illuminating ember upon Princeton, and to repair the deficiencies of nature. Carnegie Lake

Murray Hall (1879).
Marquand Chapel (1881).
Richard Morris Hunt,
Architect.

Dodge Hall (1900).

Parrish & Schroeder,
Architects.

supplies the missing feature in the landscape, a long and shining reach of what is apparently a full-fed river, spanned with low-arched bridges, which exactly fits and fills the landscape. For the practical purpose of its creation, it is much wider than the Isis or the Cam, affords a clear three miles straightway, and gives breadth enough to afford a lively competition on even terms, without resorting to the makeshift of the "bump," while, in the meantime, affording an auditorium, or, rather, spectatorium, adequate to the requirements of the entire permanent and transient population of Princeton. It is unique among college



Interior of Marquand Chapel.

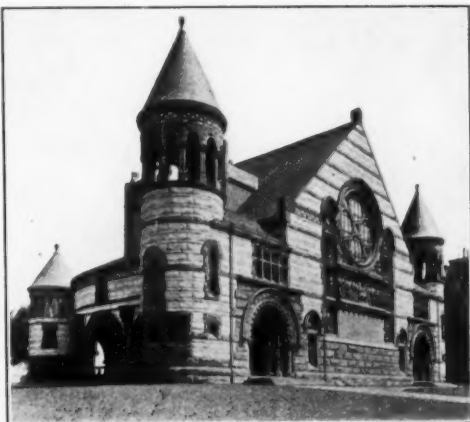
benefactions; perhaps unique, since the imperial Roman "tank" that Martial celebrated, and one is quite at a loss to know what could have been done more both to the picturesque and to the practical purpose with the money that it cost.

From almost the day of its final alighting at Princeton, the College of New Jersey took its stand as the leading place of education for the Middle Colonies. The beginnings of King's College, since Columbia, were still eighteen years in the future, and the early years of Columbia were hampered by difficulties of which it will be time to speak when we come to them. The theology of Princeton was perhaps not very distinguishable from the variety of Calvinism inculcated at Harvard or at Yale. But it was

at least not inculcated nasally by "Yankees." One must recur to Cooper's "Satanstoe" and its successors to understand the bitterness of those provincial prejudices. Upon those prejudices, in spite of his own enslavement to one set of them, Cooper is a first-rate authority. By dint of the combined forces of imagination and tradition, he did manage to retroject himself into "the dark backward and abysm" of those Colonial squabbles of two generations before his own. And we may quite trust him when he says that, in the middle of the eighteenth century:

There is, and ever has been, so wide a difference in our customs, origins, religious opinions, and histories, as to cause a broad moral line, in the way of feeling, to be drawn between the colony of New York and those that lie east of the Byram River.

(There may be readers to whom it is necessary to explain that the Byram River is still on the map and denotes the stream which empties into Long Island Sound between Portchester and Greenwich, and thus divides Westchester County from Connecticut.) The hero of "Satanstoe," Cornelius Littlepage, born in 1737, was, naturally, according to the habits of those times, "prepared for college" at the age of fourteen, or in 1751. A family conclave decided his destina-



Alexander Hall (1892).

W. A. Potter, Architect.

tion. Harvard was too far off. "We had the choice of two," says Littlepage:

These colleges are Yale, in Connecticut, and Nassau Hall, which was then at Newark, New Jersey, after having been a short time at Elizabethtown, but which has since been established at Princeton.

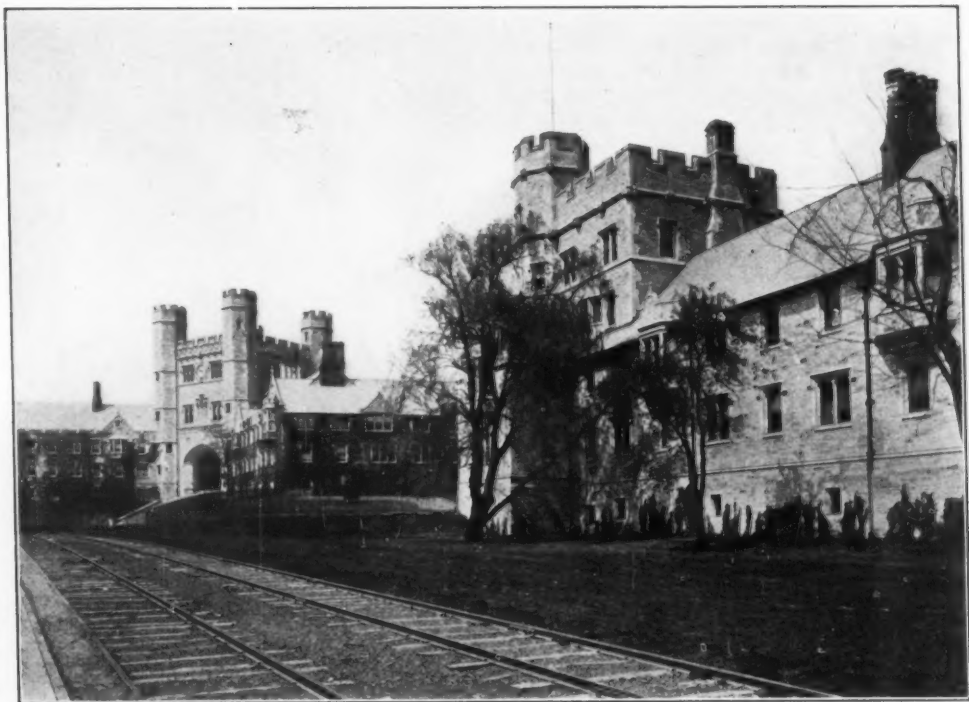
There seems to be a small anachronism here. "Nassau Hall" did not exist as a name before it existed as a building, when, as we have seen, it would have been Belcher Hall but for the Governor's modesty, and the students were not moved from Newark to Princeton until after Cooper's hero was graduated. But the anachronism is immaterial to the story. The family conclave decided in favor of New Jersey, in spite of the mother's apprehensions of "that terrible voyage between New York and Powles' Hook," the same which the ferry now negotiates in twenty minutes every twenty minutes. It is interesting to note that the final decision seems to have been determined, in the minds of the worthies of Westchester, by their sense of the barbarous and abominable manner in which the English language was pronounced in the colony of Connecticut. Meanwhile, the College of New Jersey had a local habitation soon after it had a name. The final and "definitive" charter, Belcher's charter, dates from 1748. Nassau Hall was opened for the reception of students in 1756. It is thus but



Clio Hall (1893).

A. Page Brown, Architect.

Whig Hall just beyond is an architectural duplicate.



PRINCETON FROM THE RAILROAD.

Blair Hall (1897).
Cope & Stewardson, Architects.

Stafford Little Hall (1899-1901).
Cope & Stewardson, Architects.

four years younger than "Old South Middle," in New Haven, thirty-six years younger than Massachusetts Hall in Cambridge. But it is architecturally far more interesting than either or both. For it was the earliest college building really designed as such in the English colonies of North America, with the single exception of the college building at Williamsburgh, "at first modeled by Sir Christopher Wren," but destroyed by fire before 1723. Of this building we know nothing, though it would be interesting to have Sir Christopher's idea of a college in Virginia in the time of good Queen Anne. But Massachusetts Hall, in its original estate, and Connecticut Hall were evidently the works of the untutored Colonial carpenter, magnifying the dwelling houses they were in the habit of constructing, with reference only to enlarged "accommodation," and without reference to the expression of the special purpose. Nassau Hall was

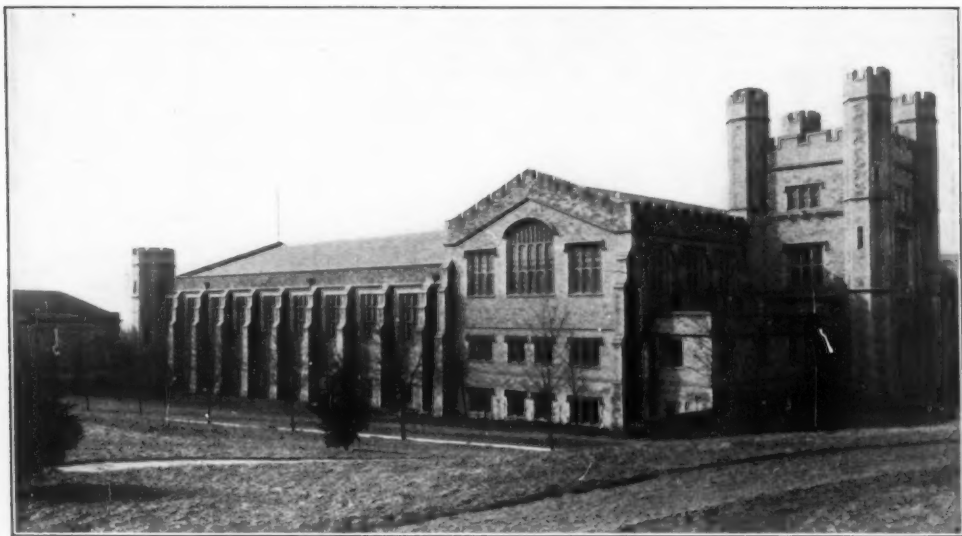
so distinct a satisfaction and expression in its very ground plan of the requirements of a college, with its subdivision into chapel, library and recitation rooms that it impressed itself as such upon President Ezra Stiles, of Yale, as he was traveling southward in 1754, when only the foundations were visible, so as to



University Library (1897).
W. A. Potter, Architect.



1. Nassau Hall
2. University House
3. University Offices
4. West College
5. Prospect
6. Halsted Observatory
7. Remond Hall
8. Dickinson Hall
9. University Green
10. John C. Green School
11. University Hall
12. Witherspoon Hall
13. Observatory
14. Murray Hall
15. Edwards Hall
16. Marquand Chapel
17. Biological Laboratory
18. Art Museum
19. Dynamo Building
20. Chemical Laboratory
21. David Brown Hall
22. Alexander Hall
23. University Hall
24. Isabella McCord
25. Brodman Memorial
26. Clio Hall
27. Whig Hall
28. Upper Pyne Building
29. Lower Pyne Building
30. Blair Hall
31. University Library
32. Stanford Little Hall
33. Dodge Hall
34. Gymnasium
35. University Power Plant
36. University Hall
37. Civil Engineering Laboratory
38. Fitz Randolph Gateway
39. Patton Hall
40. McCosh Hall
41. Mather Sun Dial
42. Palmer Physical Laboratory
43. Cannon Hall
44. Givens Hall
45. Vivarium
46. New Dormitory
47. Ivy Club
48. University Cottage Club
49. Tiger Inn
50. Cap and Gown Club
51. Colonial Club
52. Elm Club
53. Campus Club
54. Quadrangle Club
55. Charter Club
56. Tower Club
57. Terrace Club
58. Key and Seal Club
59. Oboon Club House
60. Field House
61. Caged House
62. Grand Stand
63. Thompson Gateway
64. The Bachelors
65. Bayles Farm
66. Railroad Station
67. University Athletic Field
68. University Athletic Field
69. University Athletic Field
70. University Athletic Field
71. University Athletic Field
72. University Athletic Field
73. University Athletic Field



THE GYMNASIUM (1903).

Cope & Stewardson, Architects.

induce him to sketch the plans and note the dimensions in his diary. It was the only college building in the colonies really planned as such, excepting St. John's College at Annapolis, projected, it is true, by Governor Bladen in 1744, and long known as "The Governor's Folly," planned by a Scotch architect named Duff, but not completed until 1785, or twenty years later than Nassau Hall.

What the collaboration amounted to of "Dr. Shippen" with "that approved architect, Mr. Robert Smith, of Philadelphia," there is, of course, now no means of determining. But it is a well-established fact that in the Middle Colonies, almost throughout the eighteenth century, a dilettante interest in the fine art of architecture was a branch of classical knowledge much affected as

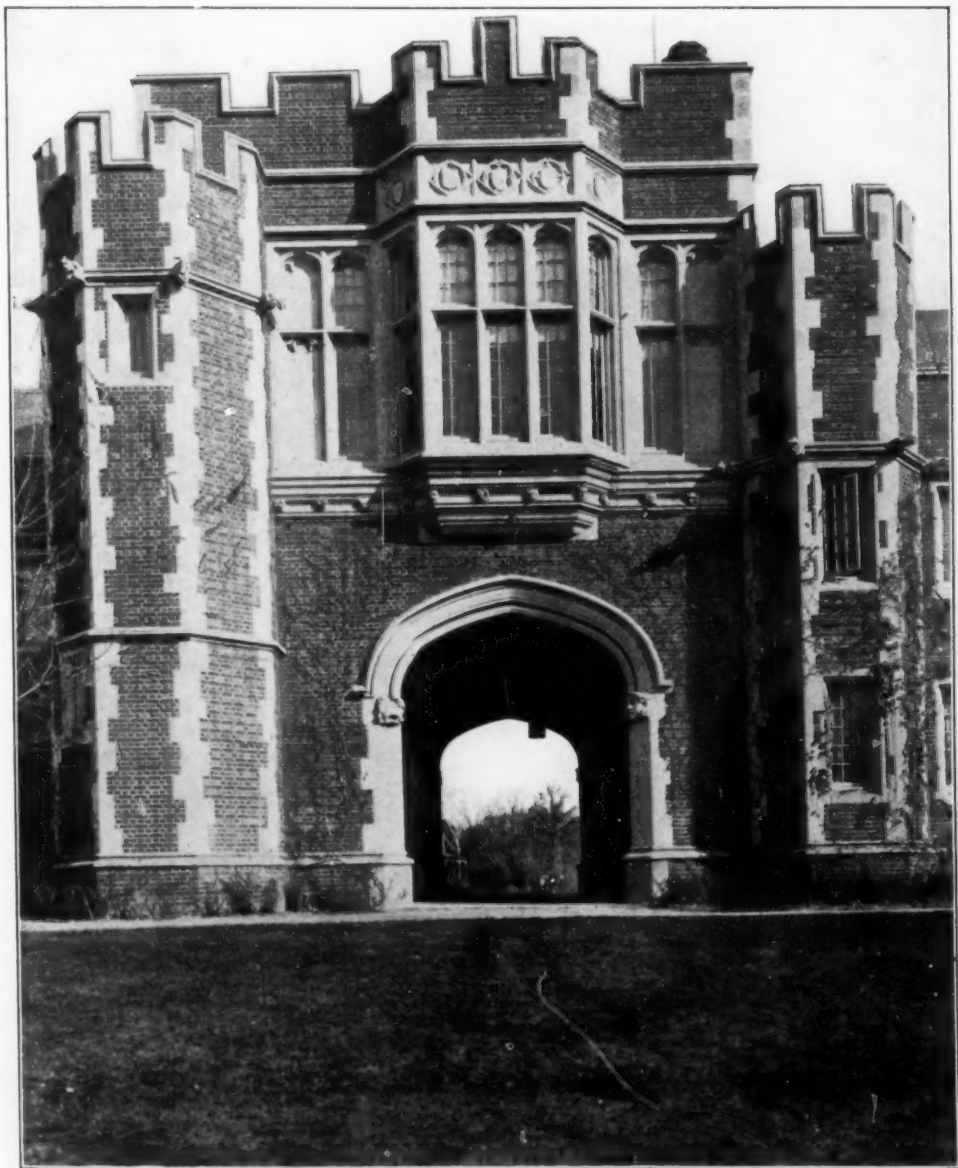


79 HALL, CAMPUS FRONT (1904).

B. W. Morris, Jr., Architect.

part of "a liberal education." Thus, Dr. Kearsley, a practicing physician of Philadelphia, was the architect of record of

Independence Hall. It is not very likely that any of these cultivated amateurs could have put their architectural notions

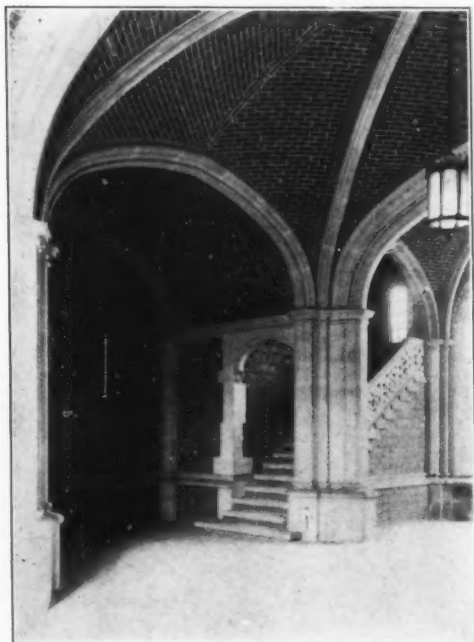


GATE TOWER, '79 HALL, FROM THE CAMPUS.

Christ Church, and Andrew Hamilton, the leader of the Philadelphia bar, of what came afterwards to be known as

in shape through their own drawings. What they probably did was to lend their libraries to the mechanics who actually

did the work, and to give these mechanics the benefit of their suggestions on points of taste. In the next generation, Thomas Jefferson, himself one of the architectural amateurs and critics, complaining that "the genius of architecture seems to have shed its maledictions over this land," was also to complain that "workmen could scarcely be found here capable of drawing an order." But this would not much have mattered to Jefferson if he had been "capable of drawing



Staircase in '79 Hall.

an order" himself. Mr. Glenn Brown, in vindicating the "Dr." Thornton of the next generation after Nassau Hall as the real designer of the Capitol at Washington, has, indeed, established that Dr. Thornton could and did make executable drawings. But we cannot go far wrong in assuming that Robert Smith designed Nassau Hall, and that the services of "Dr. Shippen" were rather suggestive and tentative than even properly consultative.

Whatever its authorship, Nassau Hall was well designed, so well that it has

continued to serve well some considerable part of its original function through this century and a half since its erection. It has also served other public functions more than passably well, since it was the meeting-place of the Continental Congress for some five months (July-November, 1783), in the last stage of the Revolution, and accommodated that migratory body. For its own purposes, it comprised the requisites of a college, having a "hall" which was also a chapel, "with a stage for the use of the students in their public exhibitions," a library, "furnished at present" (1764) "with about 1,200 volumes," and recitation rooms, with dormitory accommodations for almost 150 students, "computing three to a chamber." Which is to say that, a century and a half ago, it united the functions now divided among Marquand, Alexander, McCosh, Dickinson, Whig, Clio, the two libraries and half a dozen dormitories, and accommodated them so well that it was not until the nineteenth century was well begun that Princeton seems to have found the need of further expansion. In the meantime, as may be supposed, the "two hundred acres of woodland" had been pretty well denuded for the benefit of shivering students and instructors, and the field of expansion was open. A building which served its purpose so well and so long must have been well planned. It was also well named. Governor Belcher's modesty stood the young institution in good stead. It was not only that there was no American opposition to the "Protestant Succession" secured by the Revolution of 1688, no longing for the return of the Stuarts in any colony north of the Old Dominion. It was also that the reminder in the name that a prince of Holland had occupied the British throne was the most consolatory consideration that could have been presented to the Dutchmen of New Jersey and the adjoining colonies and conciliated them even under the experience of the outrageous Cornbury, undertaking to establish, now by intimidation and now by trick and device, a church as alien to the general sentiment of the population as ever was the English Church in Ireland.

There are few buildings within the present limits of the United States more venerable than Nassau Hall. And it is all the more fortunate that it should be visibly worthy of its historical distinc-

over, in scale and design appropriate to the substructure. The ends have a quaint and unsought picturesqueness which is adventitious and accrued long after the completion of the original fab-



PLAN FOR THE DEVELOPMENT OF PRINCETON UNIVERSITY (1906).

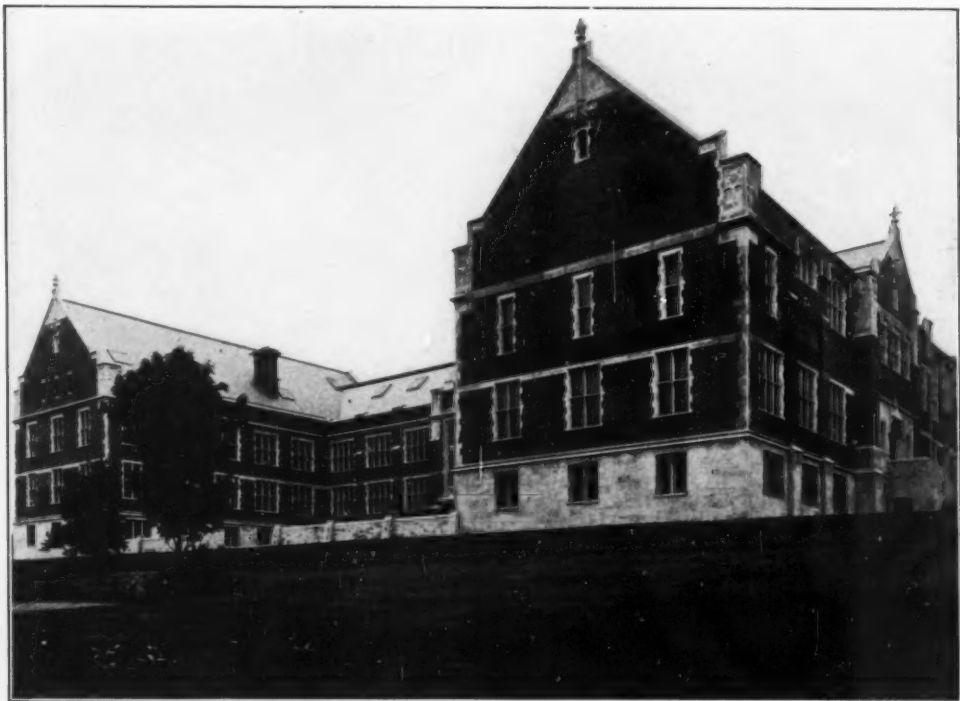
Ralph Adams Cram, Supervising Architect.

tion, as, upon the whole, it is. A seemly and dignified edifice, extensive enough to be impressive, and crowned with a feature denoting a public, if not particularly its public purpose, a feature, more-

ric, since they are not indicated on the eighteenth-century prints. They are, in fact, small enclosed stairways, to which subordinate entrances at the ends give access, and they effectively decorate

spaces that would be bald and blank without them. One supposes they must have been added after the fire of 1855. A still more effective, if a more conscious, modern enrichment is the conversion of the old chapel, which projected from the rear of the original building, into a "faculty room," which recalls the chapels of the "classic" colleges of Oxford and Cambridge. The remodeled interior, with its lunetted

and effective, and one foresees that it will increase as the age of Princeton increases and the piety of Princeton is maintained. Opposite the doorway of Nassau Hall is another enrichment, the gateway in grateful memory of Nathaniel Fitz Randolph, the particular benefactor who seems to have been most instrumental in bringing Princeton to accede to the terms of the College of New Jersey, and who, for his own part, gave

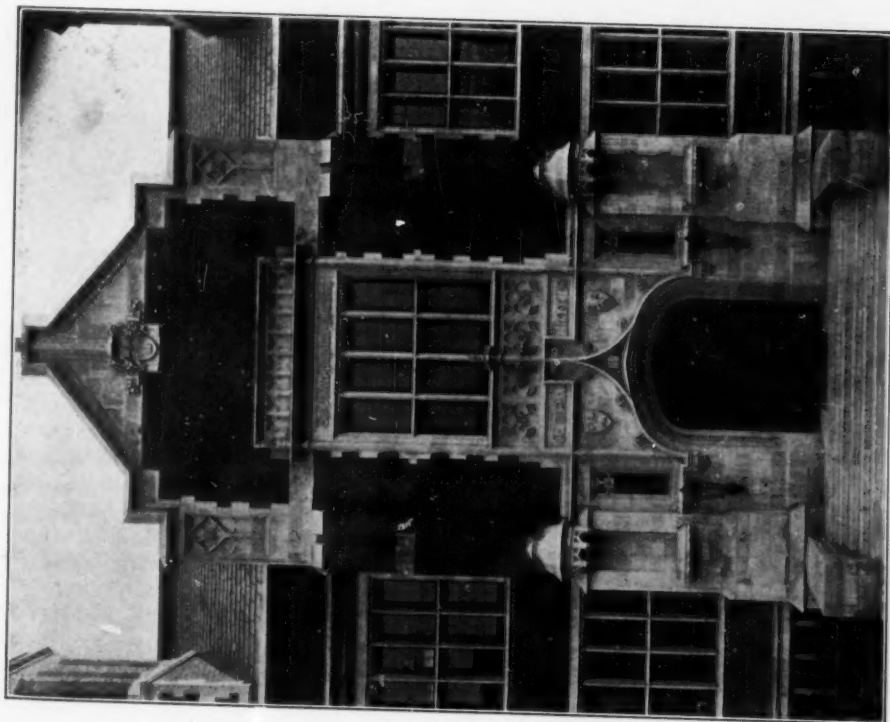


PALMER LABORATORY OF PHYSICS (1908).

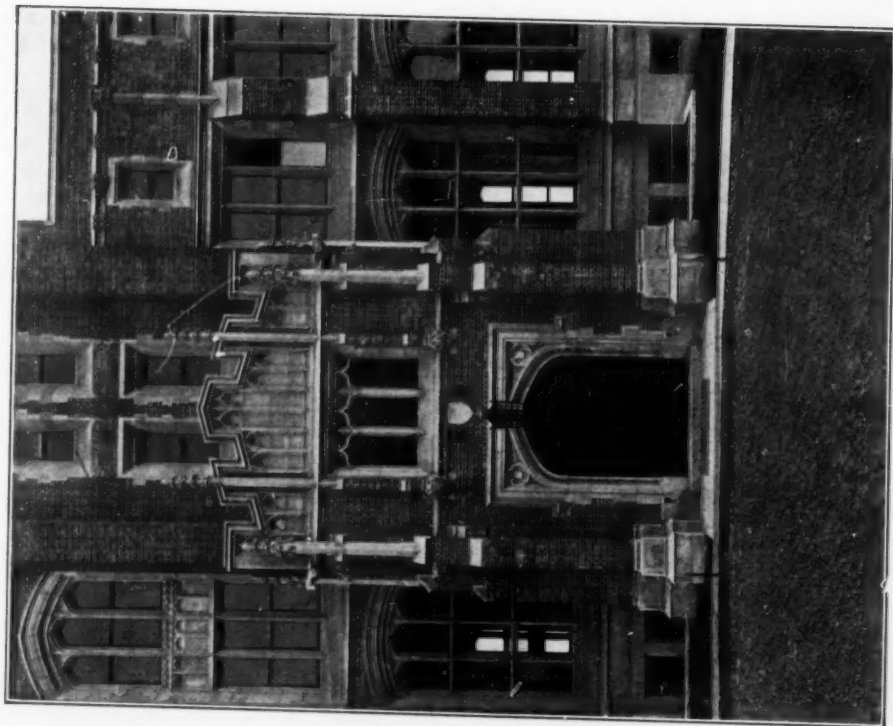
Henry J. Hardenbergh, Architect.

openings and its tall and rich wainscoting of carved oak, is admirably and liberally carried out, and so entirely in keeping with the spirit of the building that one feels at once that this is what "Dr. Shippen and Robert Smith" would have done with the chief showroom of their building, with the two provisos—if they could have afforded it and if they had known how. Already the decoration, by portraiture of Princetonian worthies and benefactors, is interesting

the "four and a half acres on the broad street" upon which Nassau Hall itself stands. The memorial, evidently, is "dedicated particularly" at Nassau Hall, to which it is entirely congruous and appropriate, ignoring, questionably, but possibly quite properly, the complete architectural change which has come over the spirit of Princeton since Nassau Hall constituted the college. And perhaps one might, in any case, have asked for eagles less naturalistic



ENTRANCE TO PALMER HALL.
Henry J. Hardenbergh, Architect.



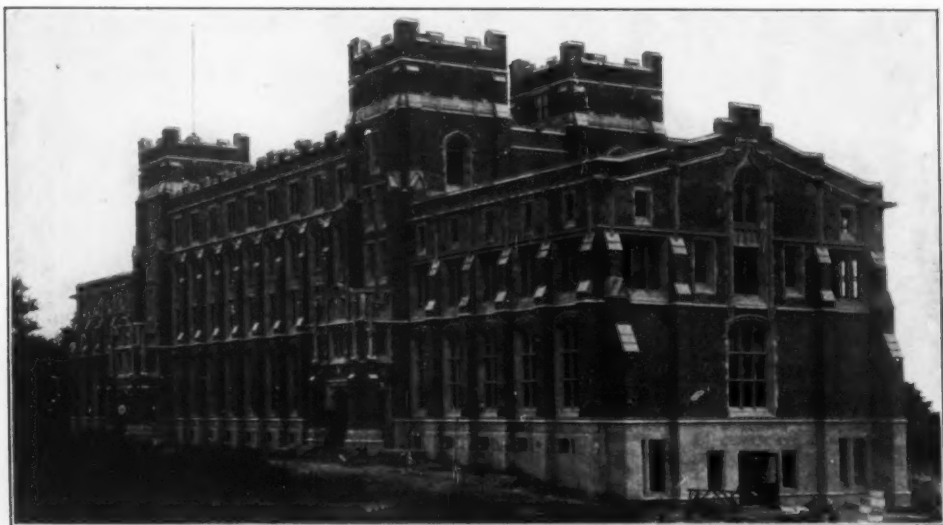
ENTRANCE TO GUYOT HALL.
Parrish & Schroeder, Architects.

and more conventionalized and architecturalized, the actual birds tending to recall Sheridan's criticism on one of the authors of the addresses at the reopening of the rebuilt Drury Lane that he had produced "a poulterer's description of a phoenix."

The interest of Nassau Hall is thus architectural as well as historical. The interest of the only collegiate building contemporary with it is exclusively historical. This was "the President's House" from 1756 to 1879, when "Prospect," the "villa in the Italian style" of the fifth and sixth decades of the nine-

presidency in February, 1758, and died the following month. But quite his brand of theology continued for some generations to be stamped upon the youth of Princeton. To the outward eye, the house has little distinction, being a mansion of the like of which the New Jersey of its period contained many examples, and still retains some, in various parts of the State.

Apparently, Nassau Hall and the President's House continued to comprise the architecture of the college until within the nineteenth century, when a third building was added (1803), originally



GUYOT HALL (1909).

Parrish & Schroeder, Architects.

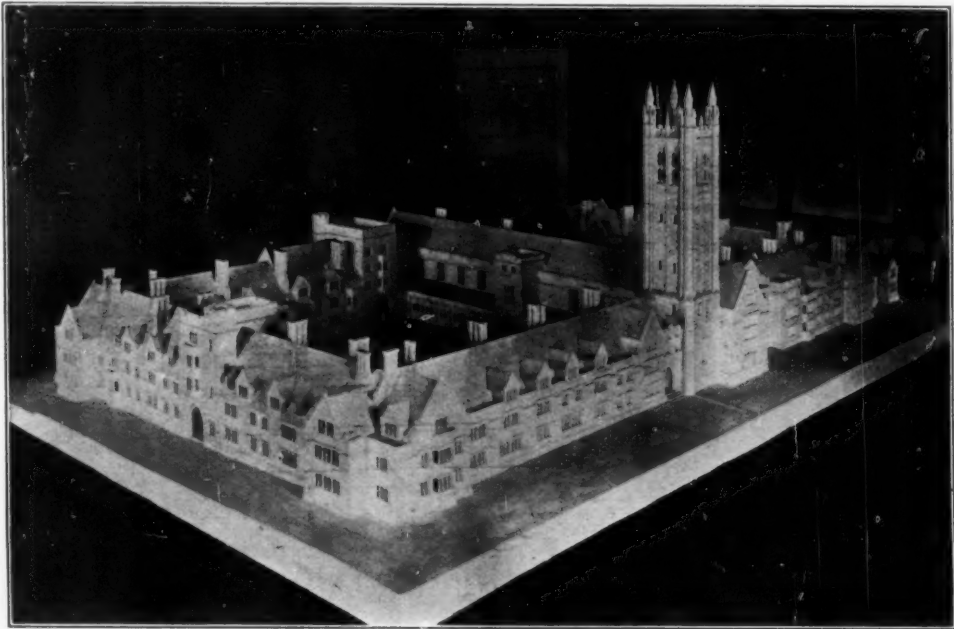
teenth century, was acquired for the president of the university, and the old residence of the presidents became the official abode of the dean of the college. To Princetonians, the old mansion is almost as venerable a relic as Nassau Hall itself. The official residence of Witherspoon, Edwards, Aaron Burr (the elder of the name, not Iscariot) and their successors for a century, could not fail to be so. "Mighty Edwards," by the way, though his name does well enough to point a tag of couplet, had no chance to "stamp his iron heel" on the teaching of Princeton, since he arrived to take the

for recitation rooms, the library, and the two literary and debating societies. Since all these requirements have been accommodated elsewhere, it has become the "university offices." It is quite without architectural interest, but happily, also, without architectural pretension or offensiveness, being quite the kind of thing the unambitious builder would naturally adjoin to Nassau Hall, to which it conforms apparently in material, and certainly in color.

Neither the architectural troubles nor the architectural triumphs of Princeton had yet begun. Indeed, they were not

to begin, the troubles, until after the middle of the century, for "West College," erected in 1836, was still, in effect, the product of the "Colonial" tradition, under which buildings were built when they were needed, and by mechanics who aspired only to meet the necessities of the case, adding such classic garnishing as their employers were willing to pay for. In this case, the classical garnish was omitted, and, indeed, any pretense of architectural embellishment. This "Muse's factory" was a mere parallelo-

attained that one would much prefer the building with its original roof—straight-pitched or gambrel, as the case may have been. The class of which it is a specimen, being simply the satisfaction of practical requirements, if not attractive cannot be repulsive; and, such erections, if they do not help the architecture of the environment in which they appear, do not hinder it. The time may, indeed, come when their room will be more desirable than their company. But in the meantime they may stand without of-



FRESHMAN DORMITORIES, NORTHWEST CORNER OF CAMPUS.
(From the Architects' Model.)

Frank Miles Day & Bro., Architects.

ped of rough and honest masonry, with holes for windows where they were needed, and covered with a roof, whether of single or double pitch, into the mind of the designer of which entered no other thoughts than those of shelter and economy. In the actual mansard roof of the building, it is true there were added the purposes of additional accommodation and of architectural effectiveness. But this is obviously of much later date than the building below it, and the architectural purpose is so far from being

fence, and if they are less desirable than real architecture, they are immensely preferable to mock architecture. The baldness of West College loses nothing, in fact, gains much, by its juxtaposition to the much more "architecturesque" Reunion Hall, erected in 1870 to commemorate the reunion of the two "schools" of the Presbyterian Church, although, architecturally, the building is rather a monument of the schism. The "architecturesque" purpose is made manifest not only in the variation of color

which accrues from the quoining of the rough gray walls with red brick, but in the preparation in the substructure for the variations in the treatment of the roof, including the acutely pointed turrets which flank, not successfully, the not more successful two-storied mansard of the central pavilion. On the whole, one much prefers the handiwork of the untutored and unpretending mechanic of 1836.

There was, in fact, no noticeable addi-

numbers it among his happy effusions." 1870-1880 was not a very lucky period for an "instauration." Most of the sensibility and enthusiasm of the architectural profession in this country was in those years directed to the promotion of the Gothic revival, and it was, naturally, among the sensitive and cultivated practitioners of architecture that Princeton, like other American colleges, sought its architects. And it so happened that the eruption of the Gothic revival pretty

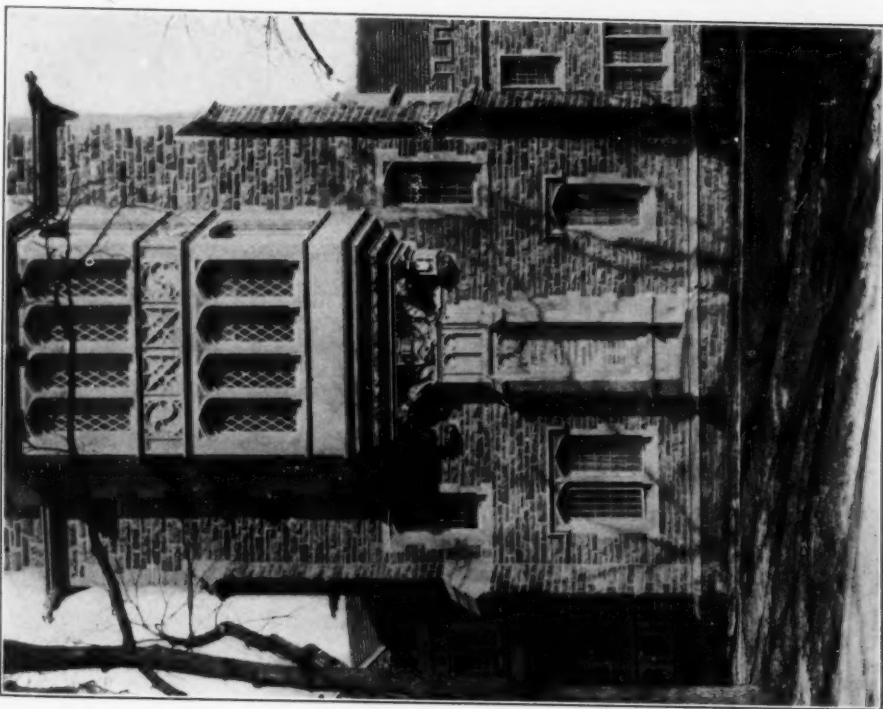


EAST FRONT, EAST QUADRANGLE, FRESHMAN DORMITORIES (1909).

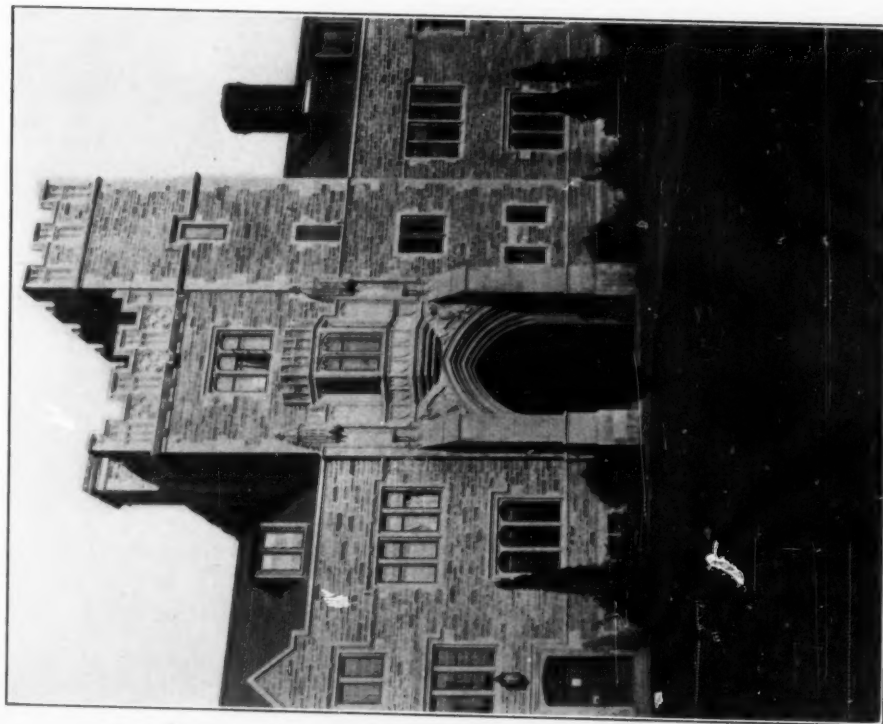
Frank Miles Day & Bro., Architects.

tion to the architecture of Princeton between 1836 and 1870, which is perhaps as well for the architecture. But during the eighth decade of the nineteenth century the additions were many and noteworthy. They began in the previous decade with Mr. Post's "Dickinson Hall" (1870), afterwards altered under the direction of Mr. Lindsey, a work of which one may repeat the conjecture as to its author that "since the ardor of composition is remitted, he no longer

closely synchronized with the addition of "collegebred" young men to the practice of architecture. The mechanic of Colonial times and the amateur and dilettante of those times, who, as we have seen, were apt to divide among themselves the designs of "important works" beyond the scope of the unaided mechanic, had begun to succumb, as to such works, to the educated and lettered architect. Assuredly this change was full of promise for architecture. But it



ORIEL FROM PATTON HALL (1906).
B. W. Morris, Jr., Architect.



GATE TOWER, CAMPBELL HALL (1909).
Cram, Goodhue & Ferguson, Architects.

had its drawbacks. The promising young architects of that day had mostly fallen under the spell of Ruskin's eloquence, and had taken to architecture on what one may call literary grounds. They had, naturally, taken to Gothic. Now, Gothic architecture is a noun of multitude, signifying many. But the "Victorian Gothic," promoted by Ruskin's preachments, laid very special stress, in general, on the elicitation of "individuality" in the designer, on individuality even to the exclusion of comity, of uniformity.

architecture as something more and other than a means of livelihood, to enforce Emerson's inculcation: "Trust thyself! Every heart vibrates to that iron string"; whereas, as a matter of fact, when you see the results of an architect of insufficient training and discipline "trusting himself," you have, rather, an unregenerate longing to see him vibrating to a hempen string. It were a safer inculcation, at least in so social and civic an art as architecture, that after you have undergone your academic discipline, and



THE IVY CLUB (1897).

Cope & Stewardson, Architects.

And in particular, it laid stress on the very individualistic Gothic of north Italy, which was distinguished, among other things, by the free external use of color. These were two rather dangerous inculcations. They were not altogether Ruskin's, since he distinctly inculcated the necessity of the adoption of a particular mode or phase of historical Gothic as a starting-point for future work. But the net result was, upon the whole, mischievous. It tended, in its effect upon young men who had been inspired to adopt

learned to conform, whatever individuality or originality you possess will come out in spite of you. Will come out, that is to say, unless the art you undertake is altogether a matter of convention and tradition. And here is, in fact, the meaning and value, and the perennial utility of mediæval architecture, that it is not and never was an architecture of mere convention and tradition, like the hieratic architecture of Egypt or like the Roman classic, from Vitruvius to this day. Throughout the thousand years through

which it held sway, and remained alive, under the names of Romanesque or of Gothic, through all its progresses and all its retrogressions, it was an architecture of craftsmanship and not of formula; it was founded on the nature of things, and not on conventional assumptions.

All the same, too much individuality, too little conformity, was no doubt the defect of the architecture of Princeton for that fateful decade. Her new buildings were all in highly "Victorian" Gothic. Manifestly, they all stood in

Cram calls "the Gothic quest" than the Gothic find, rather a departure than an arrival. The ambitious young architects were, in fact, so many Japhets in search of a father, and some of the orphaned attempts at filiation were pathetic, while some were comic. And yet there was much cleverness, and there remains to-day much interest in those sporadic and imperfectly related buildings. I have elsewhere spoken of the late William A. Potter's contributions to what is, unfortunately, an assemblage and not an



THE CAP AND GOWN CLUB (1908).

Raleigh C. Gildersleeve, Architect.

need of being trained and brought into subjection by some necessity of conformity. The inculcated necessity of "individuality" was reinforced by the natural desire of "donors" to have their donations distinguished, and by the natural reluctance of collegiate bodies to restrain the beneficence of benefactors by looking gift-horses in the mouth. Gothic is so comprehensive a term, and "Victorian Gothic," in particular, so free and "eclectic," that it is no wonder that the most progressive and interesting works of that period suggested rather what Mr.

ensemble. The first of them, the Chancellor Green Library (1873) which was a restudy of its architect's elder brother's earlier restudy of the baptistry of Pisa, is evidently "Victorian" and Ruskinian, by reason of its polychromy and its variety of design. But one would by no means like to see it go, even from its adjunction to the sober monochrome of the larger building of a quarter of a century later, which its author's riper judgment justly concluded to be more to the purpose of a university library. And certainly one would not wish to see

the School of Science demolished in favor of any imaginable building for which its room might be desired. One might, indeed, be willing to spare the gabled front, of which the fenestration is by no means so rhythmical or so "inevitable" as to impose itself upon his consciousness. But he would be very unwilling to lose that saddle-backed tower, so clearly foretold from the bottom, of which the massive expanse of

either imposed on the several architects of the campus or arrived at by agreement among themselves. But evidently that failure in comity cannot be imputed to any one of the architects in particular who ought to have been collaborating, but who were, in fact, competing. One of them, Mr. Robertson, was Mr. Potter's partner of those years, though I believe that all the works of the partners at Princeton were individual and



THE COLONIAL CLUB (1908).

Gibson & Stewart, Architect.

the base is so ingeniously and happily diminished into the attenuation of the tower by its successive offsets. That remains an ornament to the campus of Princeton, a highly picturesque object, one of the worthy monuments of the Gothic revival in America, and an indisputable work of architecture.

Doubtless the School of Science suffers, as do all the Princetonian buildings of its period, from the want of any "consensus" about style and material,

"respective," and not joint. Consider what the condition then was of the campus of Princeton, and how little, or rather nothing, there was to which to conform, "compare it with the bettering of the time," and I think you will find Mr. Robertson's "Witherspoon Hall" becomes not only an interesting, but almost an exemplary performance. It is, no doubt, highly unconformable. There is, no doubt, a superfluity of "features" which do not always compose a countenance,

and one may reasonably wish for a good deal less of variety, even at the risk of the monotony which the designer was evidently anxious to avoid, in particular for a much less tormented top and skyline. But the animation is not without dignity, the materials are well chosen and combined, and the treatment throughout is so straightforward, structural and expressive that one would not willingly miss Witherspoon altogether from the campus. Mr. Robertson's other contri-

Hall was another Gothic addition of that period, but not so "Victorian," being monochromatic and seemingly rather more tame than wild of aspect, though in fact, it has since been remodeled partly out of recognition to conform to its later neighbor, Dodge Hall. Edwards Hall is also a studiously quiet work. Nobody will pretend that it is pretty, but nobody can deny that it is decent nor that it attains the praise of inoffensiveness, beyond which it scarcely aspires;



THE COTTAGE CLUB (1906).

McKim, Mead & White, Architects.

bution to the architecture of the campus it seems that we are shortly to miss, in the interest of the extension to the corner of the double quadrangle of which Campbell Hall and Sage Hall form the existing half. This demolition will hardly entail any regret, even on the part of the author, since the architectural fitness of what is now "University Hall" was entirely related to its original purpose of a university hotel, and vanished when it was abandoned for that purpose, now many years ago. Murray

even that it has character, the character of the "grim predestinarian," whose name it bears. The prevalence of the revival ended with Marquand Chapel. The author's name guarantees that this is an "individual" and unconventional phase of Gothic, and there may have presided over the design, likewise, a sense of the necessity that the chapel of Princeton should not suggest an Episcopalian place of worship. This latter condition was, at any rate, observed both inside and

out. Interiorly, the chapel is distinctly and exclusively enough a "meeting-house," an auditorium with a tribune, and with some interesting detail and decoration. Outwardly, it is a sprightly and aspiring edifice, of devout, if not of "ecclesiastical," connotations, and fitly enough concludes the list of examples of architectural dissent.

There was no very notable or "architecturesque" addition to the architecture

it some very crude and clumsy works. And yet Alexander Hall, the single specimen of Richardsonian Romanesque at Princeton, is by no means to be regretted. It is a design upon the whole quite worthy of the robust master himself, though, in fact, suggested by the very incongruous example bestowed upon Yale by Bruce Price in Osborn Hall, some three years before, upon which the Princeton building is a very



HOUSES IN "PRECEPTORIA" (1909).

Prof. Walter B. Harris, Architect.

of Princeton between 1881, the year of the Marquand Chapel, and 1892, the year of Alexander Hall. This, again, is very likely as well, since any additions that had been made in that decade would probably have been made in the Richardsonian Romanesque, which, at the best, would have introduced another refractory and incongruous element into the architecture of the university, and at the worst would have imposed upon

distinct advance. The amphitheatrical sweep which is quite meaningless at New Haven gains point and relevancy at Princeton in becoming the entrance to a rounded auditorium. The opposite front, indeed, being flat and gabled, entails an awkwardness, by reason of its width and "lowth," and of the sprawling of its gable, which is the chief defect of the design. It seems that it would have been better to cover this wall with a

hipped than with a gabled roof, although the substitution would have entailed some trying problems of both exterior and interior treatment. For all that, Alexander is one of the architectural possessions of Princeton, a vigorous, consistent and refined piece of work, carried out, without and within, with an amplitude of means which the artistic skill employed upon them prevents at any point from degenerating into mere ostentation or sumptuosity.

they could have commanded habitations of their own, would no doubt have commanded them in the prevailing Georgian manner. They could hardly have ordered them in so "correct" a classic as Mr. Page Brown's twin temples, for the "American Whig Society," among whose early debaters were James Madison and Philip Freneau, was organized in 1769, and the Cliosophic Society, of whose early athletes were Oliver Ellsworth and Aaron Burr the younger.



UPPER PYNE (1896).

Raleigh C. Gildersleeve, Architect.

An entire college in this manner would not lack interest!

It is odd that the very next essay in the architecture of Princeton should have been a reversion to "pure classic." It is a far cry backward from Provençal Romanesque, through what Freeman calls "the classical or transitional Roman" to the Hellenic source. The societies which the temples house date back almost to Nassau Hall itself, and, if

Here is another anomaly that one cannot regret. It often seems that the reproducer of the temple is abdicating his function as a designer. But the architect of these little prostyle Ionic temples, unpretending as they are, brought something of his own. The visible bonding and implication of the masonry in marble are modern and individual glosses, and have the effect of giving something of interest and of organiza-

tion to the otherwise blank walls of the cella, which, in the originals, by hypothesis, have none of those qualities.

But the "instauration" of the architecture of Princeton, the movement which makes the place so interesting that it is at present about the most attractive architectural Mecca in the United States, was begun only thirteen years ago, when the University Library and Blair Hall were concurrently under construction.

there are so very few college yards that show any recognition of them. That they are recognized now at Princeton gives that institution a distinction unique among the elders. When a billionaire presents an institution with a *tabula rasa*, and the billionaire or the institution says to the architect, "Write," it is his own fault or his own privation if he does not write something worth reading. But in the older institutions there is so

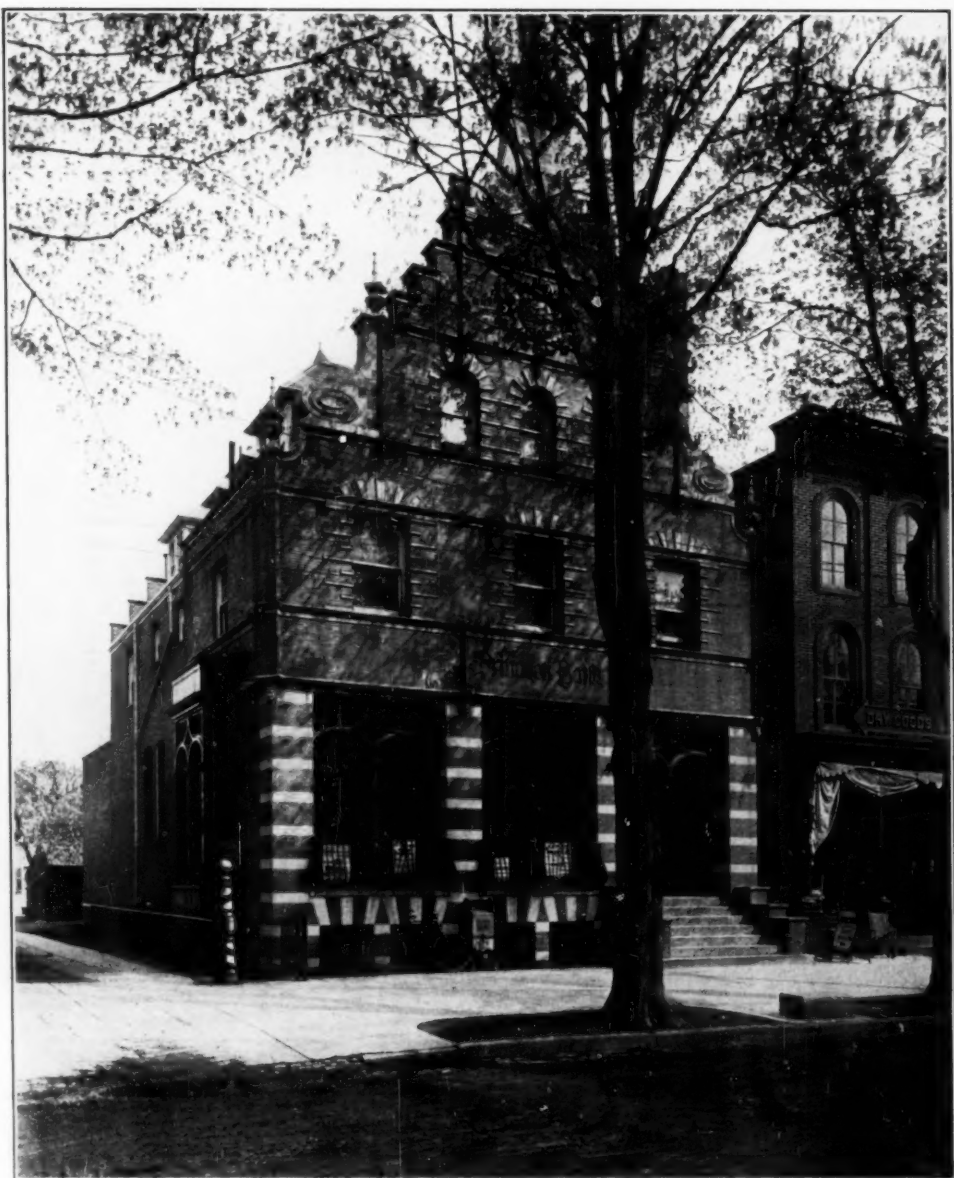


LOWER PYNE (1897).

Raleigh C. Gildersleeve, Architect.

That the architecture of a university, or even of a college, should have something of uniformity and consistency, not only from year to year, but from generation to generation, that buildings in sight of one another should be designed with reference to one another—these are propositions sufficiently obvious, one would say. There is not a "college yard" or campus in the country, of half a century's duration, that does not enforce them upon any open sense. And yet

very much in the way, so many practical obstructions, so many sentimental obstructions, to the realization of anything that deserves to be called an ideal. The historic sentiment is as worthy as the artistic sentiment. The *res gestae* are not and by right ought not to be ignorable. An ancient institution cannot if it would, and should not if it could, regard its possession as a "clean slate," as if it were a brand new foundation in Illinois or California or Texas. Where,



THE PRINCETON BANK (1896).

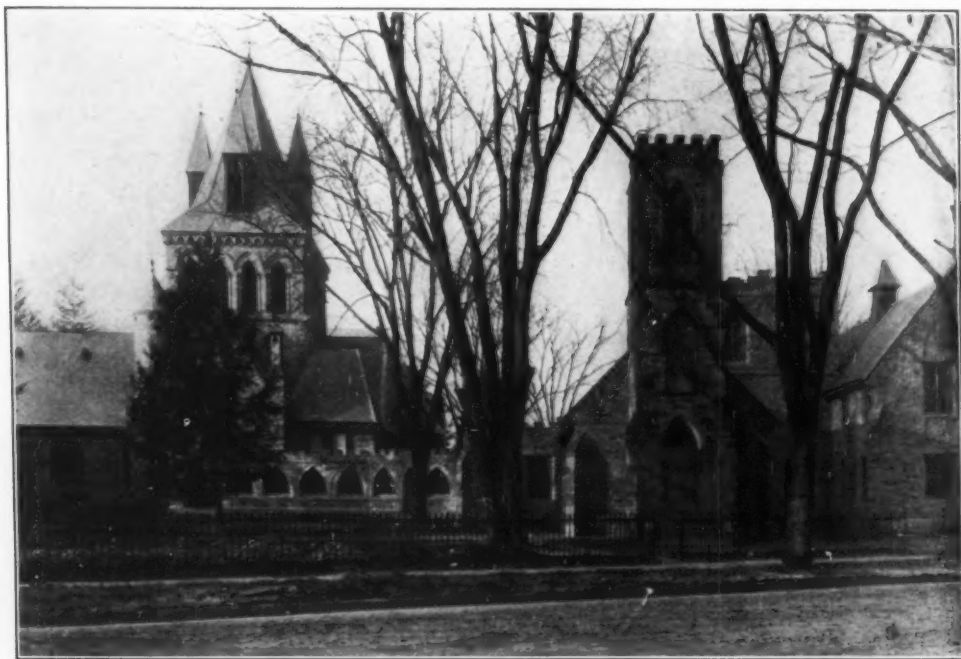
William E. Stone, Architect.

in fact, can you find more architectural incongruities than in the secular architectural progresses and retrogressions of Oxford or Cambridge? And yet, how these incongruities are overruled and blended into a single, harmonious and

charming composite image! The architectural enthusiast is in danger of becoming an historical vandal. He who demands his "clean sweep" is prone to forget that his own cherished new fashion may yet become an old fashion,

depending for its preservation upon the same appeal to the historic sentiment which he for his part ignores or rejects. He forgets his Browning, "Three and twenty leaders of revolutions have I seen"! What was up to the standard of its own time is worth preserving at least as an "historical document." Of course, this does not protect mere incompetency, mere illiteracy, mere crudity. Of course, it does not forbid the considerate attempt to convert an architectural chaos

formance. An architect may be trusted to treat his own youthful indiscretions with all the tenderness of which the case admits, and the newer, soberer, monochromatic and scholastic Gothic exhibits no contempt for the older, more vivacious, polychromatic and "eclectic." The practical "scheme" of libraries had, in the interval, changed, but the old library is still found capable of excellent service as a reading-room, and is kept as well in countenance as may be as a work



TRINITY CHURCH (1858).

Richard M. Upjohn, Architect.

into an architectural cosmos. Of course, it does not prevent the adoption, even the imposition, of a mode of building which has for generations been recognized as the most appropriate to the particular purpose, which "has pleased many and pleased long." And, in fact, it is precisely this process which gives Princeton its unique architectural interest. Mr. Potter's adjunction of the Pyne University Library to his own Chancellor Green Library of a quarter of a century earlier is an exemplary per-

formance, the ground tint of the old being in effect the monochrome of the new, while the connection between the two is of an excellently reconciling tendency. A dignified and appropriate work.

But undoubtedly it was Blair Hall that fixed the style of the newer Princeton. Nothing could be happier than the barrier of building that screens the campus from the railroad. And when we have climbed the broad stairway and passed through the groined arch of the

gateway, we are unmistakably in a cloistral seclusion:

The world and wars behind us stop.

The confrontation of a college with a railroad is commonly an architectural as well as a practical difficulty. Here, by a stroke of genius, it becomes an architectural opportunity. And the subsequent works of the architects of Blair Hall, still skirting the railroad, the Stafford Little Hall and the Gymnasium, continue the scarped and bastioned rampart against the world without. Conformably to which function one finds or fancies a sterner and grimmer treatment of the outer than of the inner walls of the dormitories, according to Ruskin's praise of the domestic building at Verona, with "its richest work given to the windows that look out on the narrowest streets and most silent gardens." Nothing could be more delightful, nothing more "collegiate," than the aspect of these edifices. One feels, in looking at them, how pedantic, how puerile it would be, in letting the charm of them sink into him, to fall back on his logic and point out the irrationality, for example, of a crenellated parapet at the base of a sharply sloping roof. The things have so perfectly that blend of the monastic and the domestic which makes the "collegiate" character that, from the moment they were exhibited, the style of Princeton was fixed as Tudor Gothic. Princeton would have had to be very insensible to reject so plain a "leading," as insensible, shall we say, as Yale showed herself when she reverted to the classic of the bicentennial buildings after the object-lessons of Vanderbilt and Phelps? It would have been a sinning against a flood of light.

Happily for whoever visits Princeton, that insensibility was not hers. The indication was at once accepted and imposed. The next building after these admirable buildings of Messrs. Cope & Stewardson was Dodge Hall, adjoining the twenty-year-old Murray, which was subjected to a considerable remodeling to modernize, or, more properly, to antiquate it, conforming to it in material and treatment, as well as to the Marquand

Chapel at one side and to the new library opposite. One has a kindness for that fat, dumpy, comfortable tower, and even for the mansarded edifice which it tends to dignify. The next was the "'79 Hall," which is one of the most brilliant successes of the new Princeton and tends, quite as strongly as their own work, to vindicate the choice and imposition of a style by Messrs. Cope & Stewardson. The departure from their choice of material in favor of red brick and light stone supplies another phase of the delightful "collegiate" manner, and, one supposes, imposes itself as the material for the east side of the campus, as the monochrome of light, rough stone for the west. It goes far to vindicate its style as the only domestic manner. Anthony Trollope warms into unwonted enthusiasm in his admiration for the Tudor building. Hear him:

It must be equally clear that it looks out on a trim mown lawn, through three quadrangular windows with stone mullions, each window divided into a larger portion at the bottom and a smaller portion at the top, and each portion again divided into five by perpendicular stone supporters. There may be windows which give a better light than such as these, and it may be, as my utilitarian friend observes, that the giving of light is the desired object of a window. I will not argue the point with him. Indeed, I cannot. But I shall not the less die in the assured conviction that no sort or description of window is capable of imparting half so much happiness to mankind as that which had been adopted at Ullathorne Court. "What, not an oriel?" says Miss Diana de Middleage? No, Miss Diana, not even an oriel, beautiful as is an oriel window. It has not about it so perfect a feeling of quiet English homely comfort. Let oriel windows grace a college or the half-public mansion of a potent peer; but for the sitting-room of quiet country ladies, of ordinary homely folk, nothing can equal the square mullioned windows of the Tudor architects.

The architects of the new Princeton have made full and excellent use of the novelist's permission to use oriels "for a college." And, indeed, one does not see the point of his prohibition of them for domestic purposes. The oriels of the gateway towers of '79 would doubtless be pretentious for a modest mansion. But who will venture to say that the north end of '79, with its oriel, is not as truly and even more delightfully domestic than the south end, from which that feature is omitted? It is true that the prescription of five-light windows is dis-

obeyed at Princeton in favor of two or three or four, and that the injunction of an unequal vertical division is hardly attended to at all, and one can perceive no disastrous results from the omission. On the other hand, the small pane is accepted as obligatory. Mr. Seddon tells us of an enthusiastic English Gothic revivalist, in the high and palmy days of the Victorian revival, who laid it down that "plate glass was an emanation from the jaws of hell." These architects would, apparently, agree with him, and they are quite above the subterfuge of a transom, above which there may be artistic sashwork, while below the window is abandoned to the powers of darkness, which is to say, of light. Meanwhile, the material of this delightful building is more or less adhered to in the newer works at that end of the campus, while the style is by no means so strictly followed. And, indeed, there is no good reason why a building of huge rooms which must be flooded with light should follow the only excellent way for studies and dormitories. In architecture, even in Gothic, are many mansions. One need not quarrel with the architect of Palmer Hall because his Gothic is certainly not Tudor, and is hardly classifiable as English, nor with the architect of Guyot for the huge segment-headed windows which a Tudor architect would assuredly have viewed with apprehension and alarm. "Form follows function," and a general conformity is all one is justified in requiring. Nay, over on the other side of the campus, where the buildings, being all dormitories, have the same conditions under which the Tudor colleges were built, and where a stricter conformity may be exacted, one finds the conformity rather of the spirit than of the letter. That beautiful vaulted archway which gives access to Campbell Hall seems to belong to a much earlier and sterner stage of the development of Gothic than the picturesque degeneration of Tudor times. And surely none the worse for that!

It was not until after the building of "79," in fact, not until long after the sesquicentennial year, which marked the change of title from the College of New

Jersey to Princeton University, that the authorities of the university took a step more important to its future architectural development than had been the erection of even the best of its single buildings. This was the determination to adopt a plan for that development which had gone on in a random and planless way for a century and a half, though one is bound to say with less grievous results than such a want of system deserved, or than had been incurred elsewhere. The appointment followed of Mr. Ralph Adams Cram, fresh from his success in the similar undertaking at West Point, of which the results are only now beginning to be disclosed. The occupation of the eastern and western fringes of the campus had already been determined, upon lines which enlisted the complete sympathy of the new supervising architect, and which his appointment insured would be maintained. The plan concerned the completion of these fringes, but even more the treatment of the campus they enclosed by providing axes in reference to which all future buildings should be placed and planned. It will be seen that the plan provides for an expansion far beyond the probabilities of the present or the next generation, while the central avenues, from Nassau Hall to Carnegie Lake on one axis, from the railroad to Washington Street on the other, almost automatically fix future building, while the more turbulent relics of past building may be mitigated by plantation, by "ampeloptification," by alteration, by remodeling, with little or perhaps no necessity of resort to the heroic remedy of demolition. The only definitely doomed building, I believe, is University Hall, and this, as we have seen, has long outlived the purpose of its creation. And surely nobody will grudge the demolition, seeing it is in behalf of the filling out of the northwest corner of the campus with the double quadrangle of the freshman dormitories, with its stately and serene tower, towards the completion of which an impressive beginning has been made through the beneficence of Mrs. Russell Sage. Mr. Cram has modestly reserved at this corner for his

own firm only the filling out of the quadrangle of which the northern wing of Blair Hall forms the western side. (A larger opportunity will befall them in the Graduate College on the other side of the campus.) This new work is worthy of the old, worthy of the "mellow brickwork" across the campus, worthy of any place of education in the world. Comparisons were odious in an associated work in which every associate has so loyally subdued himself to what he worked in. It is really not decent to treat a collaboration as though it were a competition. And it were ungrateful, as well as ungracious, to raise petty cavils with work which gives us so much pleasure. One may wish, to be sure, that the architect of Palmer Hall had seen his way to give more interest to his stark and bald gables, that the designer of Guyot had been more deferent in his choice of the tint of his bricks and his mortar, that the architect of Patton had considerably "smoothed his wrinkled front," and the architect of McCosh had considerably wrinkled his smooth expanses. But the whole thing is so delightful. I spoke, a while ago, of the indecency of considering too curiously, from the point of view of logic, of works the appreciation of which is so much a question of taste. It is so much a question of taste that one finds himself continually fain to relieve his spirit with gustatory adjectives. How "sweet!" How "delicious!" And one finds his keenest pleasure in the "bits," i. e., "bites." What is done of the new dormitories is so full of nuances that one finds it all nuance, so nice is the sensibility which prevails everywhere. And it all has such a home-grown, such a vernacular air. Consider, for example, in the newest dormitory, the only one built of the local stone of Princeton, a stone with greater varieties of tint than those heretofore employed, the effect of the careful selection of stones for the corners according to sizes and shapes and color, so that these angles, in what is nearly a monochrome of rough stone, have the effect of quoining. And it is from this point of view that one may suggest a mild regret that the architects of these later buildings did not see their

way to protrude chimneys of rough stone like the walls, instead of trim red brickwork, above their green slate roofs, roofs covered, in the latest and unfinished building, with slates so rough and so thick that they seem to have been flagged rather than slated. The change of material in the chimneys tends precisely to dispel the delightful illusion that this is in fact native and home-grown architecture, that it is the work of an inspired stonemason, working in the manner of the builders of the prototypes of these colleges, gathering his material near at hand and fitting it together to his untutored or his inherited best, instead of the modern architect, importing his neat brickwork from afar. But, upon the whole, it is time lost to talk about this work in detail. The only way to praise such work is to show it. The lover of architecture may be commended, in the first place, to go to Princeton, and if he really cannot do that, to consider the photographs which make one regret to find them so inadequate a showing of what is really doing at Princeton.

The interest of Princeton is by no means confined to the campus. Eastward stretches a long row of "upper-class clubs," which take the place of the "fraternities" that for generations have been barred from Princeton, and which are reported to be giving the faculty nearly equal occasion for solicitude. But the club houses are without question objects of interest to the tourist of the university and the town. They are of many architectural modes, congruous or incongruous with one or another mode of the architecture of the university, of the half-timbered English cottage or English inn like the Tiger Inn, freely Gothic like the Ivy and the Cap and Gown, loosely Georgian like the Cottage, strictly Colonial like the Colonial, but uniformly showing the employment of cultivated architects, and amusing in their diversity instead of annoying, as they would be if they were within the sacred enclosure and pretended to form part of the architecture of an institution which was not altogether and promiscuously "elective," but showed signs of having a mind and a purpose of its own.

On the other hand, "Broadmead,"

which has been promptly nicknamed "Preceptorium," in allusion to its chief expected use, the latest of Mr. Pyne's benefactions to Princeton, seems rather Procrustean in comparison. It has all been done by one architect, and, consequently, consists in rather restricted variations upon one or two themes, or motives. But it is all skillfully and discreetly done, and gives one the notion of a real "university settlement," a highly habitable and eligible place of abode.

It would not be fair to conclude without saying something of Princeton outside of the university. The common street building of the town is like the older street building of many a long-settled inland village. Only, the subjection of the village to the college or the commercial stagnancy of the village has kept it from being commercialized into outrageousness and vulgarity. Even if there were nothing artistic in its building, Nassau Street would impress you, in contrast with other "main streets" of which you are aware, with the conviction that mere dullness and humdrum may rise to the level of artistic qualities. It is a common complaint of villages which aspire to the rank of "resorts" that the attractiveness of their domestic building is apt to be more than offset by the repulsiveness of their commercial building. The complaint does not lie against Princeton, did not lie, even before there were any positively attractive business buildings, as now there are. None of Mr. Pyne's benefactions to Princeton has been more exemplary or ought to be more fruitful than the two business

buildings which bear his name. Upper and Lower Pyne, with their actual shops on the ground floor, and their undisguisedly commercial occupancy, most gratefully recall the best street architecture of Chester or Shrewsbury. The architect has lavished upon them a careful and affectionate study which is visible in every detail. The wood-carving, for example, on the front of Upper Pyne, with that very charming driveway into the "mews," with the quaint sundial over, is quite worthy of the best historic examples. And the infection of architecture has spread to the local bank. As we have seen, Princeton is not Dutch as other settlements in "the Jerseys" are Dutch, nor was there any very apparent reason why the architect of its bank should have resorted to a Dutch motive. All the same, the visitor to Princeton has reason to rejoice that he did so. For of the many buildings which have been suggested by that famous and fantastic old sixteenth century meat market of Haarlem, none is more successful or seems more in place than this. And in Trinity Church Princeton has a possession, half a century of age, of which the architectural merit and the quaint accessories give excellent expression to the *genius loci*. It is good news that the enlargement of Mr. Upjohn's work has been entrusted to Mr. Cram. Princeton already is, and still more Princeton is evidently becoming, in an architectural sense, the most successful and interesting of American examples of a university town.

Montgomery Schuyler.

NOTE.—Fuller illustration of the work at Princeton of the late William Appleton Potter is given in the *Architectural Record* for September, 1909.

Building a Church for a Small Congregation

The building of a small church is a serious matter, involving the need of more care and thought than almost any other building, because it must be utilitarian in plan, monumental in design, and yet, as a rule, inexpensive. In the cities the generosity of the rich may be depended upon to provide churches for the poor, but in the country, where there are few men of real wealth, as a rule, the problem of erecting a new church building that will satisfy all the requirements demanded by a public building that will be a worthy addition to the community, while still keeping within the limited means at hand, becomes a complex one. It will be agreed that the building must have a monumental character, and that presupposes permanent materials for its construction; and that if it is to worthily express the faith of its congregation in their religion, it must be the very best in design and workmanship that they can afford, and should stand as an inspiration and invitation to worship. The building committee charged with the duty of erecting a new church will doubtless have a full understanding of their responsibility to the community and to their parish, and yet it is possible that they may not have had previous experience in building operations, and that they will find many difficulties before them. It is the purpose of this article to take up some of these difficulties and discuss them.

In erecting a business building, it is taken for granted that an investment is being made that must pay dividends; and the building of a church should not be an exception to this. Money should be so spent as to make the maintenance and repairs cost as little as possible, although the first cost may seem greater than necessary to the thoughtless; the practical considerations of site, seating accommodation and planning, must be so worked out that the building may serve its greatest usefulness and pay good dividends in

the shape of benefits conferred in the community and on members of the parish erecting it. In addition, every effort should be made to have the appearance and construction of the building such that it will last for many years, centuries even, and not be considered by the coming generations as an archaic and useless building, to be replaced as soon as funds can be raised for the purpose. Not long ago I was called in consultation by a clergyman in New England, whose people were discontented with their church and demanded alterations or even rebuilding. I found a church forty years old, in perfect repair and of ample size for the congregation, but of sadly ugly design and most inconvenient plan. The building was torn down and a new one, of better design and plan, erected at an expenditure that would have been entirely unnecessary if the original committee had not considered that the local mason could put up a building that was good enough for anybody, without the impertinent intrusion of a city architect.

The first matter discussed in committee will probably be that of site. This is an extremely important matter, and one not to be lightly decided. The site must be of ample size for the needs of the new building, and perhaps of future dependent buildings; it must be centrally located, so that both the present and future population may find it accessible; yet it should not be so near to trolley lines as to be noisy, if it can be helped. The cost of the lot, in proportion to the proposed cost of the building, must be thought of; and if lots are offered as gifts, the old proverb must be disregarded, and the teeth of the gift-horse most carefully inspected. Grades must be considered; a flat lot is certainly the cheapest to build on, but often a gift-lot is most irregular in surface. If these irregularities can be taken care of by skillful planning, they may be most use-

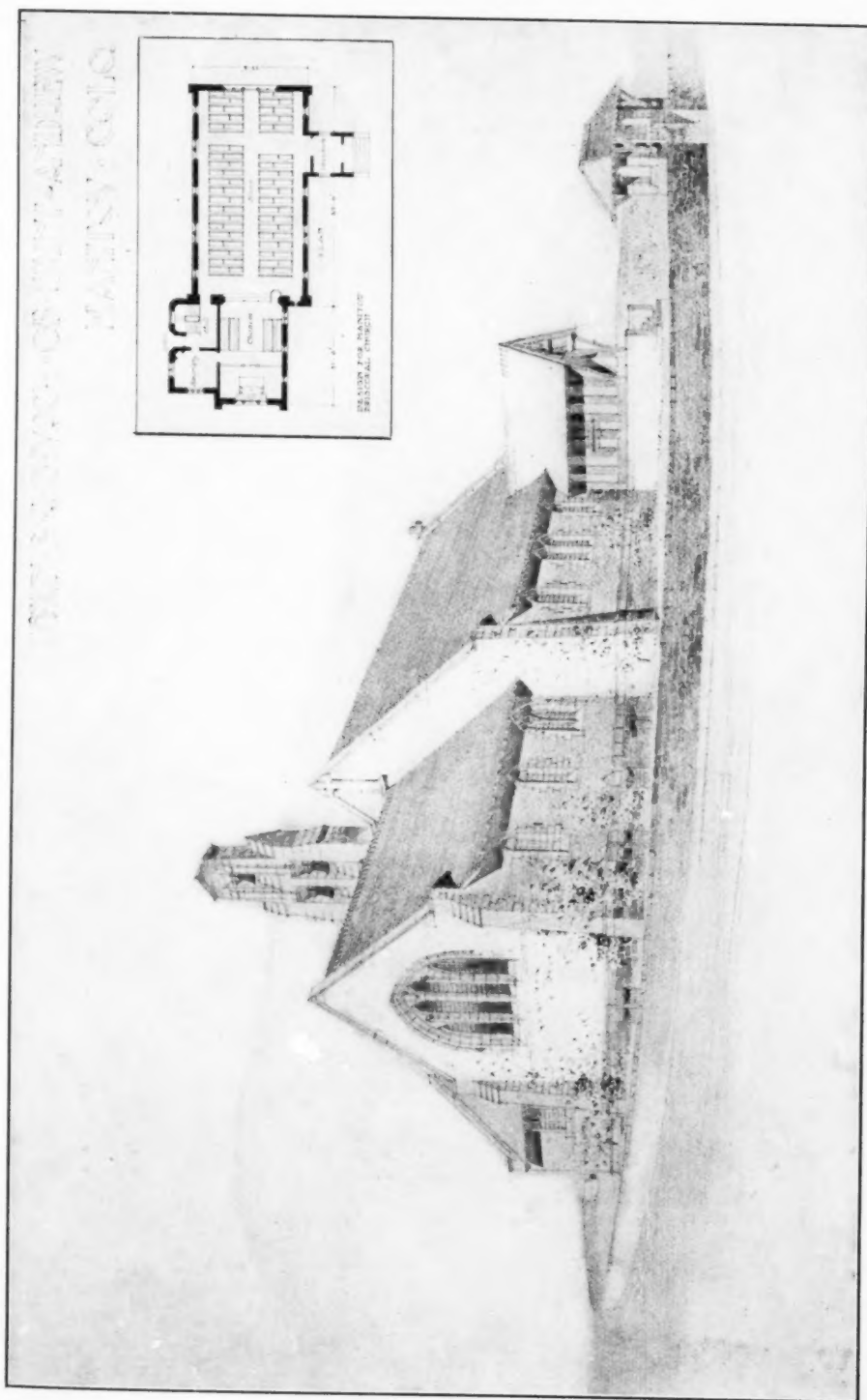
ful, not only from the artist's standpoint, but from the purely practical one of convenience of access to different levels of the building. Mr. MacLaren's church at Manitou (Fig. 1) illustrates this, advantage being taken of the falling grade towards the chancel end for the placing of a large choir-room under the chancel, where it is excellently lighted, the lot otherwise being too small for placing it on the main floor level without sacrificing valuable seating space.

On the other hand, an irregular lot may be picturesque, but costly to build on. Mr. Mackintosh's church at Twilight Park illustrates this (Fig. 2), where a most charming approach to the church is managed, but probably at a considerable expense for terracing, steps and railings. In the case of the convent chapel at Peekskill, from our own office (Fig. 3), the upper church, intended for the high services attended by the school children as well as the sisters, is reached from ground level at the convent end, while the lower chapel, used for smaller services, and as a mortuary chapel, is on ground level at the chancel end, the space under the nave being used for heating apparatus. In this case, excavation into solid rock would have been required for a cellar if the lot had been level; so the apparent extravagance of high walls was, after all, an economy. Sometimes, however, lots are offered which seem perfectly available, despite their irregularities, until the plan is worked out in more detail under professional auspices, when it may be discovered that some matter of foundation, water supply or drainage may make an apparently desirable lot a very costly one to build upon.

The size of the lot has more to do with its distance from transit lines than is generally considered. A church on a large lot, with perhaps dependent buildings thereon, but with plenty of trees and lawn, may be much further from transit lines without being "hidden under a bushel" than if it were enclosed by houses and therefore hardly known to the public. But a mean must be preserved, for no church can flourish if hidden away in a back street, where few

but its old members know of its existence. The message of the Church is to all the world, and not only to its own members; therefore it should be where all the world can see and readily reach it. A good site is often more valuable to parochial prosperity than a good preacher. Local traditions affect the site. In many New England towns all the churches are placed on the village green, without reference to where their followings live. In Waterbury, Connecticut, for example, two Episcopal churches, both in a flourishing condition, and both of respectable age, are within a few hundred feet of one another. In other towns this would be considered a serious handicap, and the churches are carefully placed so that they may not overlap. In the old English system, parochial bounds were as distinctly marked as are school and election districts today.

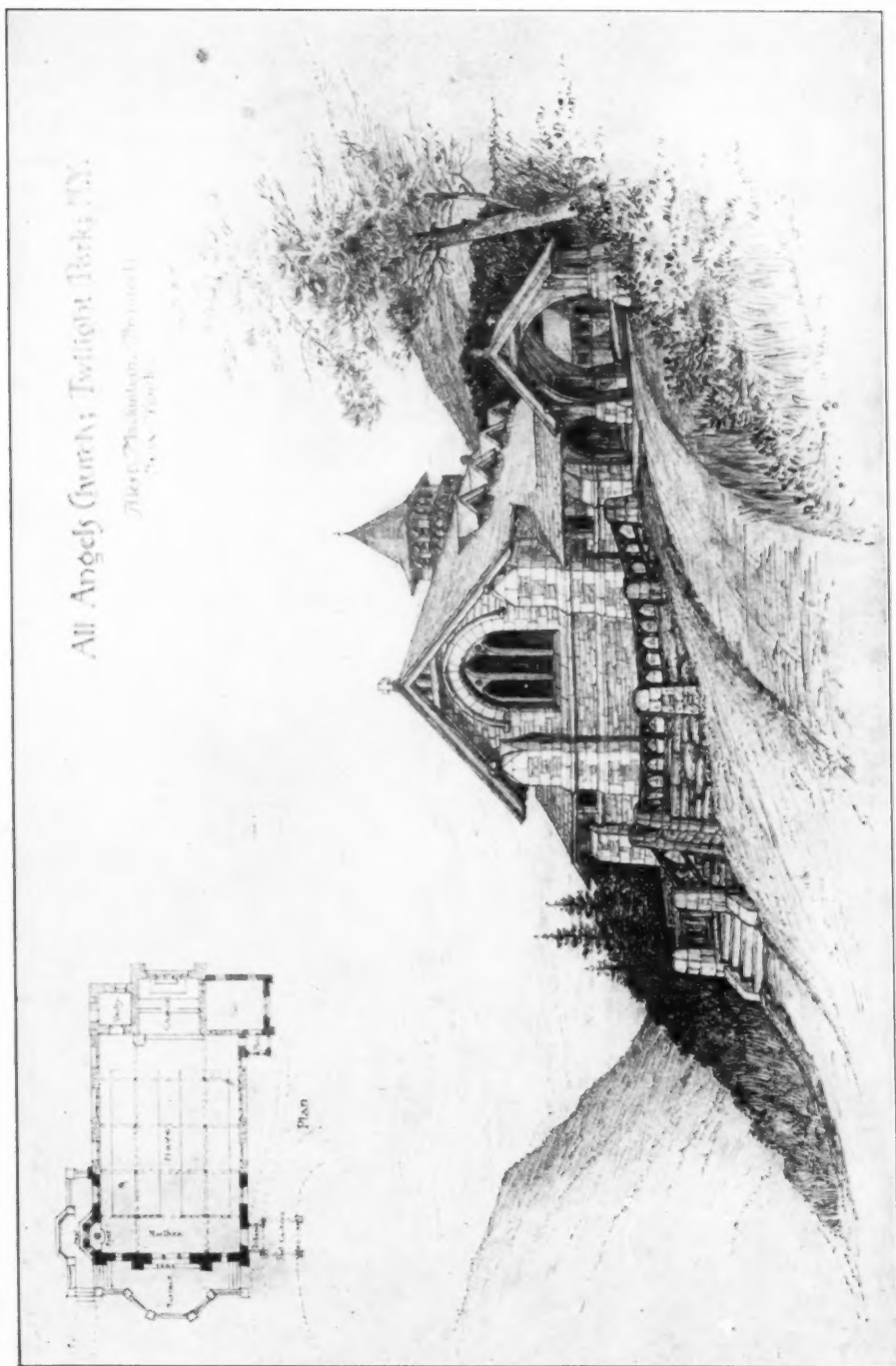
The size of the lot ought to be better proportioned to the design of the church than is usually the case. This seems like a reversal of affairs, for, of course, the design ought to be made to suit the requirements of site; but sometimes the lot is so cramped as to seriously handicap the architect who wishes to design not only to suit the lot, but the community as well. In a city that is solidly built up a church can be placed very compactly on a lot, filling it practically completely; but if this is done in a village, where all the other buildings are surrounded by ample space, the result is most unfortunate. In country and town churches the cost of the lot is usually so small a proportion of the total expenditure that there is little reason for cramping the building. The chief charm of the English village churches lies in their lovely surroundings (Fig. 4), and our own New England meeting houses lose a great part of their charm when their once ample grounds are built up into solid city blocks, crowding the old church on both sides. So, by all means, let the committee plan for ample grounds. The church will probably cover more of it than they had anticipated, anyway. Twenty-five feet seems a great deal of ground when one is buying a city lot by the front foot;



Manitou, Colo.

FIG. 1. CHURCH OF ST. ANDREW.

MacLaren & Thomas, Architects.



Twilight Park, New York.

FIG. 2. ALL ANGELS' CHURCH.

Alex. Mackintosh, Architect.

but when one sees a church set back only twenty-five feet from the sidewalk it seems surprisingly close to it.

The next point that a committee must consider is the seating capacity of the proposed building, and here many go astray. It is most difficult to estimate the number of persons in a crowd, and one nearly always overestimates. In the

are rented, it will be on a family basis, and many families will rent pews that will seat more persons than in the family. If the church is on a free-pew basis, and all the sittings are filled, without crowding, this may not represent over 80 per cent. of the actual members who might be present at a given time. Very careful consideration should be



FIG. 3.

same way, the seating capacity of churches is frequently overestimated, and if taken as a basis for the needs of the new building, may lead to greater errors. One may hear a church spoken of as seating five hundred, when a count may show sixty pews seating about six each. Seating capacity based on membership is equally faulty; for if the pews

given to this, as a church that is too small for the congregation fails of its purpose if it is a new one, and if it is too large, it has a cheerless aspect for both parishioner and clergyman, with its waste of empty sittings. Moreover, the cost of the building, both for erection and maintenance, is directly proportional to the seating capacity, and

if these costs have to be carefully counted, as they nearly always do, the church should not be any larger than is really necessary.

Conservative provision should be made for a natural growth in any new church. In towns that are closely built up, growth may be considerable; but in the majority of the smaller towns, where the houses spread over considerable area, it will be less, owing to the tendency to create new parishes rather than to build up very large ones; the new ones being placed in more easily

gation grows; this does away with the tendency of persons to sit in the back seats at the expense of the front ones, which is so distressing to the preacher. The continental system of seating a church with movable chairs, only enough being placed for the actual congregation, has never taken root here, as our people like to have their own pews or assigned sittings where they can leave their hymn and worship-books from week to week. This is less true of the Roman Catholic churches, but even in them chairs are seldom used in place of pews,



FIG. 4. RURAL ENGLISH CHURCH, SHOWING THE EFFECT OF A PICTURESQUE SITE.

accessible locations to the new parts of the town. Where it is desired to leave a safe margin for extra accommodation, it is wise to pew only a part of the church, leaving ample space in front of, and behind the pews, and arranging broad passages; on ordinary occasions nearly all the available seats will be filled, and on special occasions seats or benches may be placed in the vacant places and in the passages, accommodating a considerable number of extra persons. Sometimes a whole bay may be left unseated for use when the congre-

gation grows; this does away with the tendency of persons to sit in the back seats at the expense of the front ones, which is so distressing to the preacher.

While considering the size of the building in reference to the seating space, attention should also be given to the space to be occupied by the chancel, organ chamber, vestry-rooms, and so on. This, of course, varies with different denominations, and in some degree with different parishes. A liturgic church, like the Protestant Episcopal or Roman Catholic, requires ample chancel

and sacristy space; a Baptist church must have proper dressing rooms provided, and in all churches more space than is customary should be given to the organ chamber. Even if it is not intended to spend over \$3,000 or \$4,000 on an organ in the beginning, it is probable that some day several times that sum may be offered by a wealthy admirer of organ music for an instrument; then, it is only too often that a fine gift is ruined or seriously damaged, by placing it in an improperly planned organ chamber, or one that is too small. An organ pipe speaks out of its top, and should have ample space above it for the proper formation and diffusion of the sound waves. Moreover, a certain part of the sound, and that important part that determines the quality, speaks from the lip. For these reasons pipes should have ample space between them, as well as above them; if a ceiling has to come close to them, it should not be flat, but should be so shaped as to throw the sound out into the church. Also, if the organ space is separated from the church by an arch, it should be so shaped and placed as to avoid any pocket. Its crown should be close up under the ceiling, and its jambs mark the full width of the organ chamber.

The height required varies, of course, with the scope of the organ; but only small organs are without a 16-foot open stop, and there may be several. In a stop of this pitch, the lowest toned pipe is sixteen feet in length from the lip to the tuning slide, above this is about a foot for tuning; the "foot" of the pipe, below the lip, may be from twelve to thirty inches long, according to the quality of tone of the stop. This pipe stands on a windchest, which may be from about sixteen inches thick, including action, in old-fashioned organs, to several feet in the organs of the "Austin" type; thus it will be seen that an organ chamber ought to be at least twenty-four feet high at its high point; and if it is less, that the deep-toned pipes have to be bent over, impairing their tone quality.

Plenty of space ought to be provided

for the chancel and sacristies, where required in liturgic churches. Ritual is intended for an aid to devotion; to this end it requires dignity of performance, and this is impossible in cramped and uncomfortable quarters. The choir space should be large enough to prevent crowding, a fruitful source of disorder among mischievous choir-boys; and the sacristies should be large enough and arranged properly for storage of vestments, as well as for comfortably putting them on and off. A choir-room should be large and high enough for use as a



Fig. 5. Broadway Front of St. Paul's Chapel (1766).

McBean, Architect.

rehearsal-room; it is difficult to rehearse in a church without disturbing the habit of reverence, and moreover, the organ is not a suitable instrument for use in training singers in new music; therefore the choir-room should be the largest and best arranged of the dependent rooms. It requires height so that the volume of tone will not drown out the finer shadings, and light so as to make the strenuous work easier; and by all means must be provided with some means of natural or artificial ventilation. Where forty pairs of lungs are exhaling such

quantities of air, the room soon becomes foul, and minds dulled by the poison.

Style and material are matters on which there might be much discussion. For the former, it may be said that probably no one style will ever be evolved that will suit all conditions and locations. It is a subject often approached with a good deal of prejudice and even acrimony, by both clients and architects, who fail to remember that no style is sacrosanct. It must be appro-

breathe a sincerity and sober earnestness fitly symbolizing the men that have made them sacred by their prayers and preaching, and that suit perfectly the needs of the simple services conducted in them; no lover of the modern styles can deny the dignity and religious helpfulness of a good Gothic church; note how well the one illustrated herewith (Fig. 6) serves the purpose of the solemn and dignified ritual of the Anglican service. The matter of style is dependent on



FIG. 6. ST. PETER'S, DERBY, ENGLAND.

priate; to an unprejudiced eye a Gothic building is sadly out of place in India, as is a Spanish mission church in Maine.

Certain styles have historical connections, not only with localities, but with certain religious bodies, and these traditions should be respected and utilized with discretion. The most pronounced disciple of Gothic architecture cannot but feel the charm of King's Chapel in Boston, or St. Paul's Chapel in New York (Fig. 5); buildings that

taste, and, like it, cannot be bound by too definite canons; it is a matter where judgment should be sought from those competent to give advice, with a full knowledge of the controlling conditions.

A few rules may be laid down that are equally applicable to all styles; a church must possess dignity, quietness or repose, and a religious aspect. Dignity it must have, as it is a temple for the highest aspirations and noblest thoughts; it must not be "cunning" or

"cosey" or "homelike"; these are qualities to be desired in other buildings. Again, if it is to be a building that is to last through centuries, it must have

it should have a religious aspect seems like a truism; but much has been done under the guise of church architecture that is not worthy of the name; the land

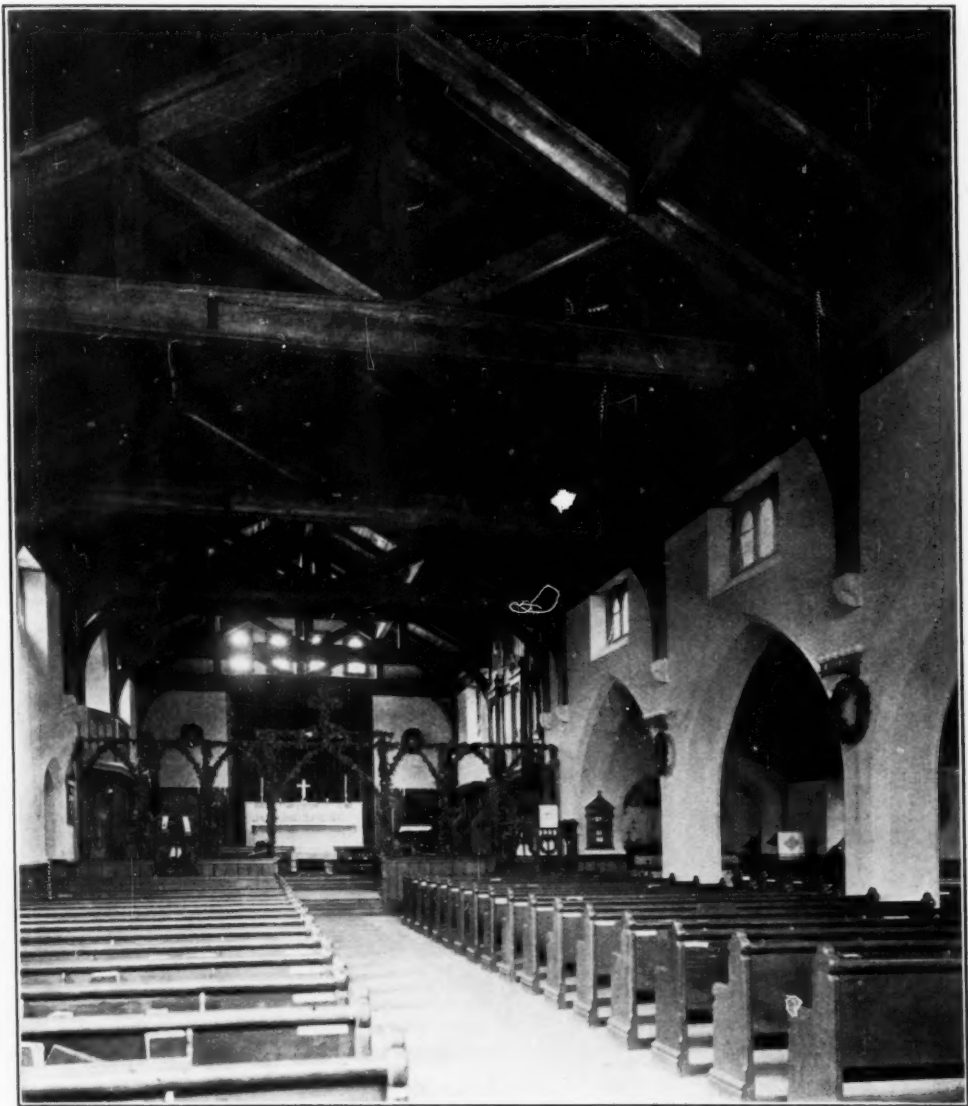


FIG. 7. ST. JOHN'S, HUNTINGTON, N. Y.

Henry M. Congdon & Son, Architects.

repose and quietness, and entire freedom from the fleeting fashion of the day; it should be a work of art and not an example of an artistic epoch. That

is covered with churches that look like banks, office buildings, clubhouses, and almost everything but what they are. Happily public taste is changing, and

the churchly church is desired, as it should be; it should invite to prayer, and not to entertainment.

The matter of material to be used in the new building is one partly depending on the design that is to be worked out, and partly on local conditions. Cost will be a determining factor, of course; but here a sharp distinction must be drawn between first cost and maintenance cost, for it often happens that a greater first

age a costly stained glass window; while stone will last indefinitely. Wooden columns are found in some of the Gothic churches built fifty years ago or less, to support the roof; the best of them will rot out badly, chiefly where it does not show, at the core and below the floor, and some day the roof will settle, and perhaps start a panic in the congregation. Masonry piers will last forever, and their cost is not pro-



FIG. 8. INTERIOR, ALL ANGELS' CHURCH, TWILIGHT PARK, N. Y.

Alex. Mackintosh, Architect.

cost will make a decided economy when the total cost at the end of ten years, say, is considered. Cut stone tracery for windows seems a luxury, and when figured in percentages seems much more costly than wood; yet if figures are taken both ways, the net difference in the total cost of the building may not seem very great when it is considered that wood tracery needs re-painting at regular intervals, and even with this care will ultimately rot out and possibly dam-

hibitive, if placed while the church is being built; in a small church they may be made of brick and plastered, as shown in the church at Huntington, Long Island, from our designs (Fig. 7); while in a more costly building they may be of cut stone. There is more excuse for placing a shingle roof on a church, for when that decays after a few years, it is simple enough to replace it with a better and more enduring material; but the parts of the building that cannot be

replaced with better material ought, if possible, to be built right in the first place, not only as a matter of appearance but as a matter of true economy.

In the matter of material for the walls there is much choice. Stone is of course the most desirable material for a monumental effect, but excellent results may be obtained from brick, including the despised common red brick. For very small buildings terra-cotta or con-

then cheaper ones should be used, but always in a scrupulously honest manner. A veneer of masonry on a wooden wall is an abominable sham, and if the church is to stand for absolute truth and uprightness in the community, its building must preach the same doctrine as its preacher. Shingles are honest, if not of an enduring nature; and it will be the duty of the committee to balance the claims of the necessary orn-

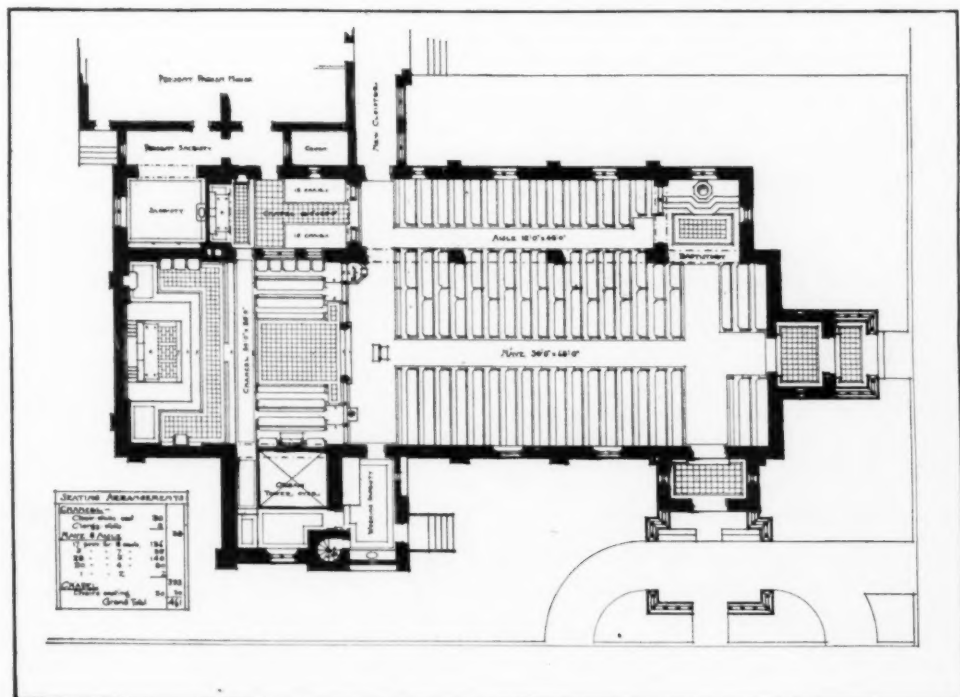


FIG. 9. PLAN—ST. PETER'S CHURCH.

Bennington, Vt.

H. M. Congdon & Son, Architects.

crete blocks may be used, covered with stucco, a method possessing great possibilities of effect as well as being economical. Concrete blocks should never be exposed to view, especially if "rock faced"; the material has an unlovely texture, and the rock-facing merely adds an element of sham for which there is little reason and no excuse. There is no disgrace in poverty that is honest; and if the available funds will not permit of the use of handsome materials,

amentation and furnishing of the building against the materials that must be used in the first instance. Many a church has done well to use its old furniture over again in the new building in order to have stone walls and tracery. Of the material of the inside walls there is less choice. Long use has accustomed us to plaster, more or less decorated in color. It is the cheapest material available, but has the demerit of requiring care, and re-decoration. Walls that are

solid stone, faced on both sides, are of course the most beautiful; but they have the demerit of appearing cold if the local building stone does not happen to be of an agreeable shade for interior work; and brick is a difficult material to use with good effect. It is lacking in the individual beauty of stone, but may be laid in patterns that will give the requisite texture; but these patterns may become most tiresome when lived with for many years.

Absolute sincerity in material should prevail in the interior; there is no place in a church where artificial marble should be used, or grained wood, for example. If marble and quartered oak cannot be used, let cheaper materials be used, and frankly acknowledged. There is always a way of treating the cheaper materials in an attractive manner; note the interior of the Twilight Park church (Fig. 8), where common softwood timber is used, rough from the saw, and stained.

There are a number of practical matters that should be carefully provided for in the planning of the church. If it is to be a church for a parish using a liturgy or set ceremony of worship, a number of details must be regarded, not commonly found in other churches. The pews should be so arranged as to make *kneeling* as comfortable as sitting down. Frequently one finds committees trying sample pews by sitting down in them; but in the Episcopal service, for example, a large proportion of the time spent in church is spent kneeling, "on their knees," as the English rubric says. A pew may be most comfortable when one is seated, and acutely uncomfortable when one is kneeling. The back should not slope much; it is generally not steep enough; and it must not be too high. The steeper the slope of the back the less height is required and the more comfortable the pew for kneeling against, while it retains comfort for a seated worshipper; as no one remains seated for any length of time in the Episcopal service, a reclining attitude is not natural. The distance apart of the pews depends on the proportions of back, seat, and slope and height of back and seat;

it is not easy to lay down any set rule for any one of these factors. The pews should be arranged with proper passages of such a width that processions may readily pass. It is particularly important that the middle alley should be wide enough for pall-bearers to carry a coffin; five feet may be taken as a minimum in a very small church. Other details, such as the arrangement of the different levels of the chancel and the relation of these to one another, have important bearing not only on the appearance of the interior, but also on the comfort of those using the church, and even on the acoustics. The choir should not be raised too high above the congregation, or the altar will be dwarfed; and if that is raised higher than natural to overcome this, it will lose in dignity by lack of relation to the chancel as a whole. Circulation should be carefully planned, in the chancel particularly, so that the communicants who have received the sacrament may return to their seats without interfering with those who are about to approach the altar; this same circulation should also permit ready access to the chancel from the sacristies, and also intercommunication between organist and choir (Fig. 9).

The special requirements of church planning are so varied and technical that they are beyond the scope of this paper; but a word may be said as to the use of symbolism in church architecture. A really good church design must have more than beauty of mass and detail and convenience of planning; it should embody, particularly in the case of the liturgic churches, some of the rich and varied symbolism of which the middle ages were so full. This symbolism had its rise in practical needs, probably, and it is always in danger of degeneration into sentimentalism, but, nevertheless, used with restraint and skill, it may add the touch of poetry to the design that differentiates the work of the architect from that of the engineer. The church services are full of symbolism; the ritual, more or less elaborate according to local custom, is almost entirely symbolic; and it seems fitting that appropriate symbolism should be used in the design.

This requires rather special study and training, a wide acquaintance with traditions and legends, and of course with Biblical lore and church teaching; but it is worth the trouble and study that the architect has put into it when the casual visitor notes the various articles of furniture in exactly their proper places and ornamented with appropriate devices, and reads in sculpture or glass familiar or half-forgotten legends of earnest Christians of long ago; and to the teacher it is a mine of inspiration for interesting and instructing children, maybe in ethics, maybe in history, but in a way that is much more impressive and much more eagerly learned than if in the printed books.

Such, then, are the matters to be debated by the committeemen who have

a church to build. After the work is progressing and the walls rising, a totally new and equally interesting series of problems will present themselves, about which much might be written; the relation of architect and client, and contractor and client, and the architect's relation to both; the criticism of the hasty and the unlearned, the reluctance of the tardy subscribers to turn their pledges into cash, the problem of the dreaded "extra"; truly, peace will not come to the hardworking committeeman for many a week. But in the end, after the church is completed, furnished and dedicated, with what satisfaction will he look about it, and say: "I, too, have helped to build a temple unto the Lord."

*Herbert Wheaton Congdon,
M. A., A. A. I. A.*

The Architect's Proper Sphere of Activity

Draughtsmanship and Designing

In the issue of September, 1909, was published an article from the pen of Prof. Ware. From this paper the author omitted certain matters which he subsequently embodied in the communication printed below.—Ed.

One of the most sensible as well as most eminent of our architects, bearing in mind the deceitfulness of drawings, was in the habit of saying that he never felt sure that he had got a design into shape until the office boy's copy looked well. He regarded drawing merely as a means of conveying his ideas to his clients and to his mechanics, and did not consider artistic draughtsmanship an essential or even a very useful part of an architect's equipment, any more than skill in versification is of value to an essayist, otherwise than as affording practice in the use of language. An architect may, indeed, well deny himself indulgence in so attractive and engrossing an accomplishment, on the ground that he cannot afford time for it, except, perhaps, in vacation, any more than he can find time to make of himself a first-rate mathematician, or civil or

mechanical engineer, or electrician, or carpenter, or mason, or decorator, or to become an expert in heating or ventilation, or even in plumbing, whatever his natural gifts in these kinds. There is not time enough, either in a professional school or in active professional life, for one man to keep in touch with all these arts and sciences in their daily developments. An architect has enough to occupy all the time and all the wits at his command in attending to his own proper business, and properly performing the tasks that nobody else can do for him. There are plenty of people to do all these things who make a specialty of them, and who can do well what he cannot hope to do more than passably, after the manner of an amateur.

But amateur work is not what his clients want, and he ought not to put them off with it. The old notion that an architect owes it to himself to keep everything in his own hands, posing as a past-master of all arts and crafts, was never a tenable one even for men born with the gift of universal genius. Few men have ever entered into this birthright, and the

notion that every architect should pretend to it has fostered an untenable and preposterous attitude which has brought deserved discredit upon the profession. All that the ordinary practitioner can honestly undertake is to understand these matters well enough to discuss them intelligently with his advisers, that is to say to be able to ask intelligent questions, to understand the answers, and to make intelligent suggestions, reserving to himself freedom to follow the advice given, or not, according as it does or does not promise to further the practical or artistic ends he has in view. His own part is to make choice among the alternatives offered him, according to his own final judgment, and to co-ordinate the whole into a harmonious and consistent scheme. Even this work of supervision, however, well he may be prepared to undertake it, will hardly leave him time for his own proper work, that is to say, for the thought and labor of putting into shape the ultimate scheme, the well-imagined end for which all these things are only means.

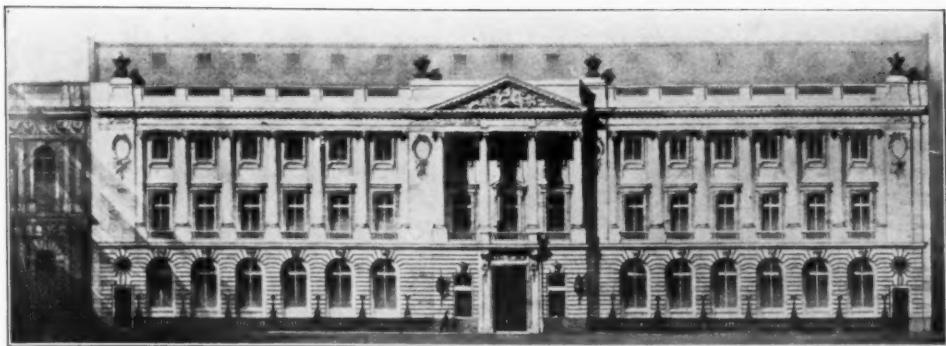
Very much the same caution is needed in dealing with proportions as with dimensions. Rooms of the same shape but of different sizes appear in the drawings to be equally well proportioned, for, whether large or small, the ratio of height to width is the same. But a room seven feet wide and seven feet high seems to be badly shaped, being too low for its width, while the House of Lords, which is forty-five feet wide and forty-five feet high, seems almost too high and narrow. Drawings would suggest no such difference. The lofty roof of Westminster Hall looks, in drawings and photographs, low and squat. The old Music Hall in Boston gave the impression of a tall and rather narrow room, being sixty-five feet high. Yet it was seventy-eight feet wide. But a room of the same shape, and that would appear to be so in the drawing, if only five feet high and six feet wide, would seem low. In all these cases drawings would be misleading. For every part of a drawing is nearly on the level

with the eye, but one must lift his eyes, even in a low room, in order to see the cornice, and it is the effort to do so that gives the sense of loftiness. So also when one is lying on his back on the top of a hill the sky seems long and narrow, like his face, and the horizon appears not circular but oval. For looking down at one part of it over one's cheek bones and up at the opposite part over one's eyebrows, requires more exertion than seeing the other two quarters out of the corners of one's eyes.

Added height, also, tells in reality for less than one would naturally expect, on account of the perspective diminution though in drawings it has its full value. For, owing to their small dimensions, the vertical line, sixty feet high, may indeed look twice as high as one of thirty feet, but an additional sixty feet does not make nearly so much difference, as may be experienced in French cathedrals, and even more strikingly out of doors. The five hundred foot obelisk at Washington, does not seem, when one is at its foot, very much taller than Bunker Hill Monument, which is less than half as high. So, also, in a street made up of eight-story and sixteen-story buildings, the sky-line looks hardly more ragged than with an alteration of four-story and eight-story houses, and "skyscrapers" make less show from the sidewalks beneath than from a distance, where they loom up like towers, "*Quantum lenta solent inter viburna cupressi.*"

The moral of all this is: that, since many of the most important qualities of buildings cannot be shown in drawings, and the most engaging qualities of a drawing cannot be made manifest in the building, drawings are unsafe guides, and, the more attractive they are made, the more misleading they are likely to be. It would seem to follow that the practice of making architectural drawings as attractive as possible is an unwise one, and that they should exhibit only such merits as are to be found in actual structures. Beyond this all, pictorial representations are misrepresentations.

W. R. Ware.



THE ROYAL AUTOMOBILE CLUB.
Pall Mall Façade.

London, England.

Mewes & Davis,
E. Keynes Purchase, } Associate Architects.

The New Club House of the Royal Automobile Club, London

Those recent examples of the French influence upon architecture England—more particularly in London—have met with such general approval that there can be little doubt but that in a short time the influence of the Ecole des Beaux-Arts—of which these indicate the commencement—will be as potent a factor in the architecture of England as it has been during the past fifteen years in that of the United States. So far, as the monumental architecture of the country is concerned, nothing could be more welcome, with the saving clause that the best French works be allowed to serve as models and that “Art Nouveau” and the other vagaries do not become an accompaniment. Perhaps the most important and certainly the most interesting example of the effect of this influence is now in course of construction in Pall Mall on a part of the site occupied by the old buildings—formerly the war offices—between the Carlton Club and St. James’s Palace grounds, it is the new home of the Royal Automobile Club.

Pall Mall, though it exhibits a few aberrations, has been more fortunate than most of London’s principal streets, in so far that the newer buildings have been, for the most part at least, the

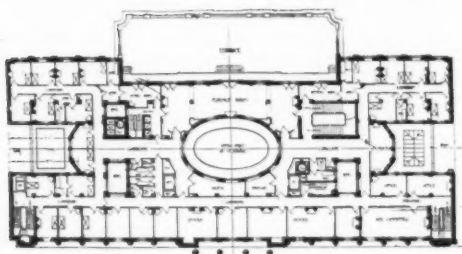
equals in design of the older structures which they have superseded.

When it was announced that the old buildings of the war offices were to be demolished to make way for “a modern improvement” not a little dissension was aroused.

English sentiment breeds reverence for anything that is old, regardless of whether or not the object be worthy of it; which as far as architecture is concerned may be understood when one looks upon the good, if commonplace, old structures, and then upon the pretentious alleged “improvements”; one grasps in an instant the national antipathy to “improvements” sympathises with it, and gives the protesting public credit for at least good judgment.

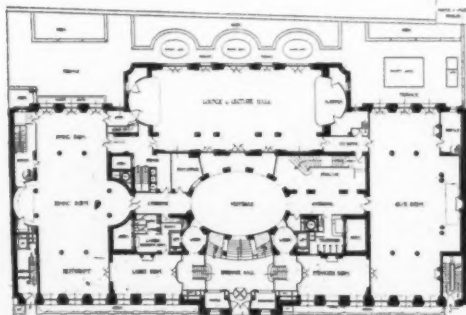
The old war offices were just such common-place old buildings, with nothing remarkable about them—only plain—not particularly refined, just inoffensive, and the present improvement will be a real one.

The Royal Automobile Club is being built from the designs of Messrs. Mewes and Davis, and Mr. E. Keynes Purchase, joint architects. Few modern buildings afford such opportunities for the display of an architect’s abilities as does a club-house, for which there are



Second Floor Plan.

many obvious reasons. There is, for instance, no opposition party demanding an investigation of every cent spent upon those details and materials which come beyond the range of "rigid economy," usually the bane of the architect's existence when he is working upon the plans of a building that is to be erected from funds gathered by the tax collector. Neither is there the trouble of educating the client from "English Gothic" to sobriety, nor the diplomatic labor necessary to convince his clients' female relations that his design cannot be materially improved upon—and cheapened at the same time—by adopting all of the suggestions set forth in the "architectural" section of *The Ladies' Universal Magazine*, which are sometimes brought to bear against his ideas as to domestic work. Perhaps most fortunate of all is the fact that this is not in a sense, a commercial structure. An important social club—especially an automobile club—implies a certain assumption of wealth of its members, but differs from an expensive hotel, in that its object, avowedly at least, is not pri-

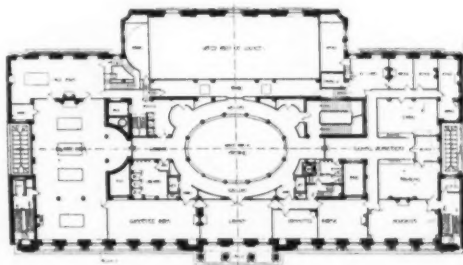


Ground Floor Plan.

marily to make money and therefore, it need not vie with its neighbors in pretensions to luxuriousness for the sake of the advertisement entailed.

Besides a degree of intelligence and refinement may be expected of the members of its committee not so likely to be found in those charged with the erection of public, ecclesiastical or commercial structures. The club committee are less likely, either, to leave the architect without information as to what is required, or to goad and hamper him with unreasonable conditions and restrictions.

A member of such a committee could never be selected from the ranks of those resolute busybodies, who are forever making trouble, even if by some

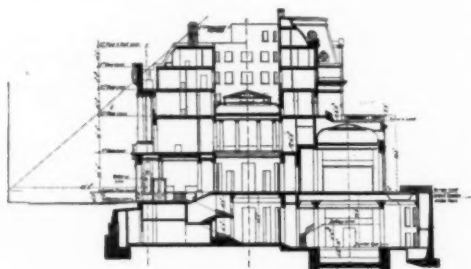


First Floor Plan.

mischance such had been admitted to membership. Hence obstructive interference or excessive individuality is improbable of intrusion upon the domain of the architect, and he is left with an almost ideal problem to solve. He is given the site, the approximate number and kind of rooms for reception and entertainment, for accommodation of members, and for service. The engineering detail, if more complex, may be less in evidence than is usually necessary in other large buildings.

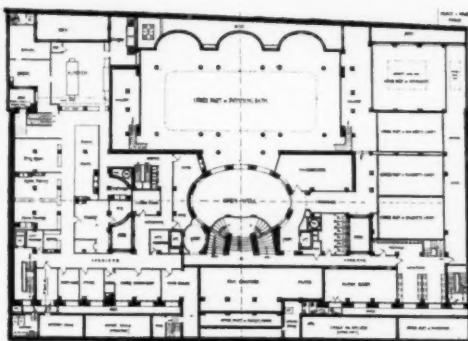
Participating at once in the nature of the domestic and public building, it is the least of each and the highest type of both the ideal of practical socialism; the home of good form and refinement; the child of precedent. Personality, if not discountenance, is at least undesired; and extraordinary originality, especially if it leans to eccentricity, is not club-

able. The character of its architecture must be dignified, the style correct, and the individual element in design which makes a home charming to one person and unbearable to another should be eliminated from consideration. Impersonal, if not strictly monumental, architecture has been the rule for the best clubs of the West End, high Renaissance being the type of design which has prevailed in Pall Mall. Of the clubs extending from Waterloo Place to St. James' Palace (which includes the Athenaeum, Travelers' Reform, Army and Navy, and Carlton), the façade of the Travelers' is based upon the design of the Pandolfini Palace in Florence, and that of the Carlton upon the Library at Venice and the Reform and



Transverse Section.

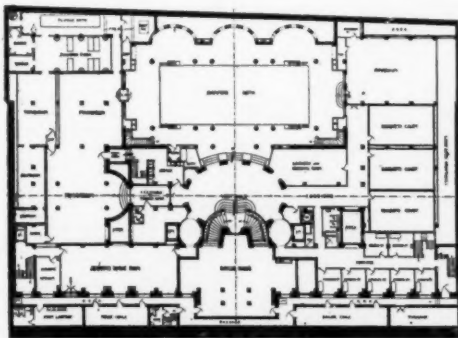
Army and Navy, upon palaces at Rome and Venice. The Royal Automobile Club, which will adjoin the Carlton, follows the precedent more or less adopted by the other clubs, and owes its inspiration to the former Hotel Crillon-Coislin—now the Automobile Club—in the Place de la Concorde, Paris. It would be difficult to find a more beautiful studied example of modern architecture than the fine fronts by Gabriel facing the Place de la Concorde—there are, as everybody knows, two façades exactly alike, the former Hotel Crillon-Coislin and the Ministère de la Marine—which rank second only to Perrault's colonnade of the Louvre, if, indeed, to that, amongst the finest columnar façades in the world. It is extremely improbable that any classic design to equal this will be built in England during the lifetime of anyone now



Lower Ground Floor Plan.

living, so that any architect who would emulate Gabriel must needs do so in much the same spirit that he might attempt to emulate the Parthenon or the Sainte-Chapelle—to attain as near as the conditions permit the same character of refinement, simplicity, and strength.

This character is expressed to an unusual degree in the design for the new Royal Automobile Club. It is large in scale, an essential to monumental effect; the proportions of the *travée* are nearly the same in elevation as those of the buildings by Gabriel, but the effect will be quite different in perspective, due to the column being engaged instead of part of a free screen. Again, in elevation, the central feature of the new building is similar to the end pavilions of the old; but the effect here will also be different. In the French example the corner columns under the pediments are engaged to the pylons,



Basement Floor Plan.

and the two middle ones, though free, are only a half diameter from the pilaster behind. In the building to be erected in Pall Mall, the corner columns under the pediment will be a half diameter in front of a pilaster on the corner of the pylon against which the portico returns, while the middle ones are free standing, the wall face being recessed below the pediment to form a loggia. This latter effect is usually a weak one, giving as a rule, the impression of two buildings joined together; but the present treatment with the pylons at the ends, and those at either side of the pediment brought to the same face, slightly in front of the bases of the columns, and the mass of masonry forming an attic behind the pediment, projecting beyond the face of the pylons will produce the effect of a strong frame of masonry round the void in the center, and will effectually unify the whole front.

The planning is on a very monumental scale and the way in which one floor is evolved from another is quite interesting.

There is an uninterrupted vista from the main entrance in Pall Mall through to Carlton House Terrace at the back. There is an elliptical rotunda in the centre of the plan at the intersection of the two principal axes serving at once as a vestibule, main hall and light court. Around this are arranged all the principal services, including the main staircase, passenger elevators and dumb waiters, service stairs, mail room, dressing rooms, cloak room and telephone rooms. The boiler flues and principal ventilating shafts are arranged next one of the elevators, near the service staircase.

These light areas extend, through the lower ground floor, to the basement. On the ground floor, the principal position is given to the lounge and lecture hall which is on the principal axis and overlooks the park-like Carlton House Terrace. The club room and the dining room terminate the long axis to the right and left respectively and have windows upon both Carlton House Terrace and Pall Mall. Overlooking Pall Mall and

between the main entrance and the dining room is the ladies' room; between the main entrance and the club room is the stranger's room. Messengers and porters occupy rooms to the right and left of the main entrance. In the extreme corners of the building are the external services and minor internal services. The terraces at the back are arranged to provide for the direct lighting to the important rooms in the lower ground floor and basement.

On the first floor the rooms of greatest importance are the billiard and card rooms to the left, and the committee rooms, library and associates rooms to the front. There is also a complete touring department and a suite of four offices besides the secretary's offices and store rooms on this floor.

The second, third and fourth floors are given up to bed and bath rooms for the use of members. The second floor differs from the two above by including a kind of drawing room, called the terrace room, which opens upon a balcony leading to a terrace which forms the roof of the Lounge hall below, and also in being planned to include sub-committee rooms, printing room and some offices. The fifth floor will accommodate the staff.

Not the least interesting part of the planning is that of the lower ground floor and basement. The former which is a large mezzanine floor includes the whole kitchen department and most of the staff dining rooms to the left of the central hall and main staircase, which is, for these two floors, planned in direct communication with the main entrance—and, to the right, the cloak rooms, lavatories, closets and urinals; each of the three latter groups being in a separate room—the barber shop and filter and locker rooms.

The plenum fan chamber is placed directly under the main entrance.

In the basement, the boiler room is directly below the plenum chamber; the servant's dining room and kitchen below the staff room in the mezzanine. Under the kitchen wing the basement is occupied by the elaborate Turkish baths. At the opposite end of the

building are the gymnasium, three racquet courts, a group of bath-dressing rooms with toilet nearby. At either side of the grand elliptical vestibule are the services and the locker and dressing rooms.

At the foot of the main staircase back of the central hall or vestibule and a few steps below it will be the principle *pièce de résistance* which is the swimming bath with a pool thirty by seventy-five feet.

This room and its accessories remind one of the great days of Rome—or perhaps rather Pompeii. The studies which have been prepared show a treatment suggestive of the latter as regards style and color and the model which has been made to a large scale, indicates that this hall will be one of the most notable modern rooms in existence; and the view from the end galleries should be most effective. It will undoubtedly afford its architects an opportunity to surpass themselves as regards the decorative and monumental treatment of a great room and as far as the studies have proceeded there is every indication that that result will be achieved. It is, in the first place, ideally located to produce "*Piranesian*" effects, especially from the mezzanine story landing of the main staircase, then it is large in its dimensions—about fifty by ninety by twenty-five feet—but not so large as to prohibit the employment of good materials and interesting workmanship. Its proportions of length to width, and both to height, have been such as to demand a very strong treatment of the isolated points of support due to long spans between the pairs of columns and the acceptance of the strong type—one which is even somewhat archaic has been a further step in the direction of effectiveness by virtue of the great scale which will be felt as one in leaving the staircases which must of necessity keep to the human measure, comes upon the basement level of the elliptical vestibule and sees directly before him the four groups of Doric columns which, rising from a plane at a lower level than that upon which he stands, are reflected in the water which extends in both direc-

tions beyond the wide angle of vision, permitted by the splayed entrance to the room which is the natural and effective result of the employment of the elliptical form of plan for the vestibule. It is always rather "previous" to mention favorably or otherwise a color scheme before it is actually accomplished and, at the time of writing, the scheme for this room is only in the study stage. The studies are based upon the Pompeian examples; and, of modern work, we all can recall instances in which the same description would apply, detail for detail, to an example which we know is excellent and another which is impossible. But having regard to other and completed interiors by the same architects, in which we know well that the delightful harmony and arrangement of "values" is not merely "lucky," if it is too much to predict it is not too much to confidently expect that the color treatment will be equal to the architectural, and not the least important factor in a fine design.

The lounge and lecture room, which has the commanding position on the ground floor, will be the next most important room, being one hundred and eight feet long, including the platform, by forty feet wide by thirty-three feet high, the club room at the west end and the dining room at the east end are each ninety-three feet by thirty-five feet and the vestibule forty-eight feet and thirty-two feet at its long and short axes.

At the present time the building must be judged from paper and plaster. With the exception of the end pylon, which does not seem a very ideal solution of the difficulty, the principal front is as good architecture as we should reasonably demand in these days of modern convenience. One thing prevents any certainty of judging the actual effect, viz.: the building faces north—a fact which does not make so very much difference in London—but if the sun ever does shine again in England! we shall have to walk round into Carlton House Terrace and regard the comparatively unimportant garden facade to appreciate the academic "shadows at forty-five degrees."

Francis S. Swales.

Lessons from Architectural Aberrations

Not very long ago I published a book* in which I endeavored to elucidate certain principles for designing the exterior of buildings, not precisely without reference to their interior arrangements, but as a separate branch of the art of design, deserving separate consideration, just as the planning of the interior is to be studied separately, the mind of the architect having each one clearly before him while working out the other.

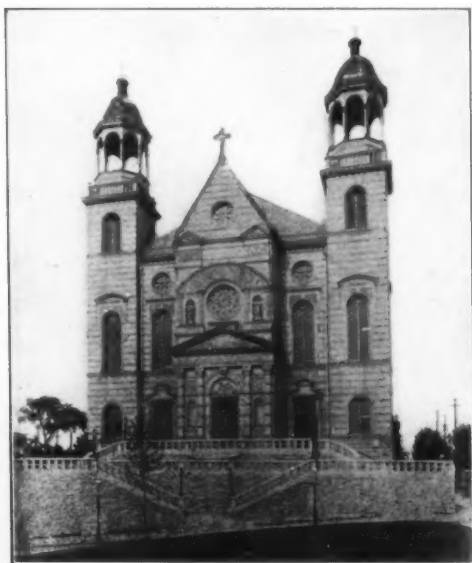


Fig. 1. Church at 163d Street, New York.

The composition is unpleasing, because the central mass is neither dominant nor subordinate.

It is my purpose now to show the utility of these principles in forming and expressing an intelligent criticism of un-beautiful buildings that come under our eyes, in place of obscure denunciation or mere silent repudiation.

No attempt has been made by those who have criticised the work to impugn the validity of the principles therein worked out; the only criticism has been that the starting point was a mistaken

one, that beauty, as an end in itself, mattered not at all, but that only utility and appropriateness were to be considered, and as much beauty as was compatible with the conditions of the problem was sure to follow. As one critic put it, the theory was too "hedonistic." "Hedonistic" is a word borrowed from the nomenclature of ethics. It is from the Greek *ἡδονή* — pleasure — and it means that the theory to which it is applied as an

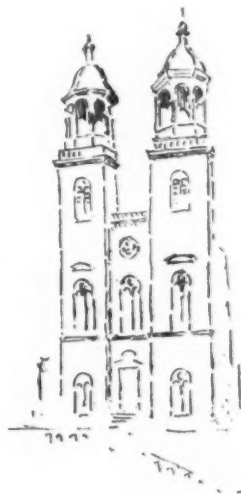


Fig. 2.

Sketch of the same church, with the central mass omitted, thereby attaining coherency and unity of composition.

epithet, whether of ethics or art, regards pleasurable emotion as the ultimate object sought.

I accept the criticism, not as a criticism, but as the expression of a fact.

It is fitting that in an age in which hedonism is rapidly pushing its way as the only tenable theory in ethics, it should also find favor as the only tenable theory in art. Beauty is, indeed, the ultimate object of architecture, and pleasurable emotion is the object of all art.

*"Architectural Composition," D. Van Nostrand Co., 1908.



Fig. 3. Cathedral at Rheims.

The central gable is almost concealed by the horizontal arcade, leaving the visible portion definitely subordinate.

Architects habitually hold that they are artists, and that their especial function is to make buildings beautiful. No doubt they have other functions: to make buildings convenient for use and strong in construction, to put into them efficacious systems of plumbing, heating and lighting; but with all these and without beauty, architecture remains but a mechanical art, is not yet an art with a capital A—a fine art.

If it were true that perfect utility is identical with beauty, we should be lost in admiration of many of the forms of Nature, which, although perfectly adapted to their environment, are sometimes hideous to behold, such, for instance, as the Gila monster.

The human face alone should be sufficient to refute such a theory. A snub nose and colorless eyes may smell and see as well as the purest profile and dreamiest orbs. Indeed, so delicate and elusive a thing is beauty that we have all known sisters of strong resemblance, one of whom was beautiful, the other plain, if not ugly. A little more weight

in the chin, a little more prominence in the cheek bones, a slight depression in the forehead, and beauty vanishes. It is as evanescent as the charm of a melody, not to be constructed by any rules of counterpoint.

Yet in the study of architecture infinitely greater stress is laid upon the work of planning and of construction than upon that of external design, partly because both of these are really of profound importance and significance, partly because until now there have existed no written rules or principles for the composition of the exterior.

Such principles can be reached only by examining buildings that are not agreeable to the eye, and, instead of dismissing as unworthy of notice, inquiring carefully as to the reason why they fail to please, comparing them with others that are pleasing, drawing our conclusions and stating them in general terms.

Our first example, Fig. 1, hardly deserves to be called an aberration. On the contrary, it is hard to say why it should not be a fairly presentable build-



Fig. 4. Church of St. Ouen at Rouen.

The horizontal arcade almost conceals and quite subordinates the gable.



Fig. 5. P. M. Sharples' Residence.
West Chester, Pa.

The small gable in the middle serves to connect the two large gables in addition to the connection by the horizontal lines of the building.

ing. Many minor criticisms, no doubt, might be made. There should be a pediment instead of a gable over the central portion, one critic might say. More horizontal lines are needed, might be the comment of another; while still another, condescending to minutiae, might take exception to the little pediments on the piers at the base of the gable, or to the curiously contorted doorheads.

But none of these criticisms applies to the building as a whole. Apart from the details, everything seems to be in order. There are the usual twin towers; the centre marked by a strong projection, whether gabled or pedimented, should not matter much—everything needed for a satisfactory church front, yet for some reason it is far from agreeable.

The example is a peculiarly interesting one to me, because it was the first that aroused in my mind the question of the possibility of reducing the art of de-



Fig. 7. Residence in Southern California.

The small dormer is an added connection between the two main masses. Compare the similar composition of a painting in Fig. 8.

sign to definite rules of, so to speak, rationalizing composition.

The sensation that I experienced upon first sight of it was not pleasurable, but distinctly painful. It struck me as a horror—an abortion, so much more violently than the facts seemed to justify, that I was moved to inquire as to the cause.

Nothing was gained by introspective methods. A mere logical analysis seemed to justify everything as it stood. Nor until comparative methods were used was any light obtained.

But as soon as we have classified buildings as those of two masses and those of three masses, and have found, by an examination of the buildings of



Fig. 6. House of A. F. Holden.
Cleveland, Ohio.

The small gable serves the same function as that in Fig. 5.

the past and present that are generally accepted as pleasing, that in the latter class—those of three masses—the central mass is invariably predominant, we immediately perceive what the trouble is with the example before us.

The prime defect is that it does not clearly show whether a composition of two masses or of three masses was intended. Two masses, indeed, there are—the two towers—but the part between, instead of merely uniting them, which is its sole æsthetic function, pushes itself forward as a third mass, more prominent in plan than the towers themselves, exceeding them also in width, and if not supereminent in height, high enough to compete with them in this dimension



FIG. 8. "PROFANE AND SACRED LOVE," BY TITIAN.

The two principal figures correspond in composition with the two towers at Rheims and at Rouen; or the two gables in Fig. 5. The horizontal well curb matches the arcades in the two churches and the line of the roof in the house; while the little Amorino figure is subordinate, like the small dormer, and the remnants of the gables of the churches.

also, terminating, moreover, in the most individual of forms, the pyramidal or pointed outline. The result is a painful uncertainty as to which is subordinate—the central gable or the flanking towers.

Imagine, or if your imagination is weak, take a piece of tracing paper and try the effect of moving one of the towers over nearer to the other, into the place now occupied by the gabled mass, leaving to connect them only the part that now connects each tower with the gable (Fig. 2).

There will result an entirely coherent composition, with the central link quite subordinate, much inferior in height to the two masses, on the same plane or back of it, certainly not in front, and of equal width or even less than either of the towers. The upper line of the connecting link will then be horizontal, not pointed, connecting the two individual masses, not asserting itself as an individual.

All, or, at the least, most, of these conditions are complied with in the best examples. Notice how the pointed gables at Rheims (Fig. 3) and at Rouen (Fig. 4) are partially masked by the horizontal arcades in front of them.

It is true that there are many cases in which a central object is placed between two others, without loss of unity and without deserving to be ranked as a composition of three masses; but in all such

cases the central object is definitely subordinated to the two primary masses, and is what I have called a secondary mass, as in Figs. 5, 6 and 7, in each of which there is a smaller central part, either porch or dormer, which really acts as a connecting part between the two primary masses, in addition to the connection made by the horizontal lines of the body of the building.

A similar treatment is found in many paintings. In Fig. 8, for instance—Titian's "Profane and Sacred Love"—the two principal figures correspond to the two gabled masses in Figs. 5 and 6, and to the two towerlike masses, with hipped roofs in Fig. 7. They are connected by the horizontal lines of the well curb, just as the architectural masses are connected by the horizontal lines of the buildings, while the very much smaller child-figure bending over the well curb, altogether subordinate, by its diminutive size, by its unassertive attitude, by its semi-eclipse behind the well curb, corresponds exactly to the intermediate smaller dormer that occurs in all three of the architectural examples.

Fig. 9 is a painting of somewhat similar composition, only here are no horizontal lines to connect the two principal figures; they are united only by the smaller figure between them, here again in a semi-recumbent position.

The true three-part composition, in

which the central part predominates in size, is exactly matched by the painting shown in Fig. 10, which is but one of many that show a similar arrangement.

With such rational analysis and criticism, we walk about town with a new interest in the buildings that come before our eyes. We find everywhere examples of compositions of two parts and three parts, and we note where failures have occurred through lack of definite motive.

Buildings gain as much in interest as do human characters when we cease to classify them arbitrarily as "good" and "bad," and when we inquire rather as to the definiteness of motive in either, lack of perfection in both being generally due



Fig. 9.

Here again, as in Fig. 8, the child figure serves to connect the two principal figures, as in corresponding architectural compositions.



Fig. 10.

A normal composition of three masses, the central figure being predominant, as in similar architectural compositions.

to lack of clearness in conception and of consistency in carrying out a leading motive.

With a realization of the definite principles upon which architecture is founded, a light is shed upon the various buildings that we see in our daily walks. We note with interest into which class each of them falls, two or three parts, or whether into neither; while the occasional aberrations that we encounter have a new life; they are no longer to be passed with scorn or indifference; we must find out for ourselves why they are aberrations—what rule they transgress.

Upon encountering such a veritable aberration as this (Fig. 11), for instance, in which unity is altogether lacking, which appears only as a fortuitous jumble of parts, we no longer pass it by as unworthy of criticism. On the contrary, we observe with interest that the chief reason for the lack of unity is that the main body of the building, of which the



Fig. 11. The chief defect is that the central part, which should connect the two gables and, therefore, should be lower, is lower than only one and is higher than the other. The central mass has the same fault as that in Fig. 1: It is neither subordinate nor dominant.

only function, æsthetically speaking, is to tie together the two lateral gabled wings, and which should therefore be subordinate to them, is, in fact, subordinate to only one of them, superior to the other. If the wing on the right could be raised a story higher, so that the connecting part of the building might be lower than it, instead of higher, as now, it is evident what a great improvement would result. Even then there would remain the central tower, which does not dominate the two flanking masses as it should. In height, indeed, it might possibly be regarded as sufficient, but in width it is far inferior to the gabled portions.

Thus it presents that most distressing fault which I have elsewhere called contradictory subordination, that is, subor-

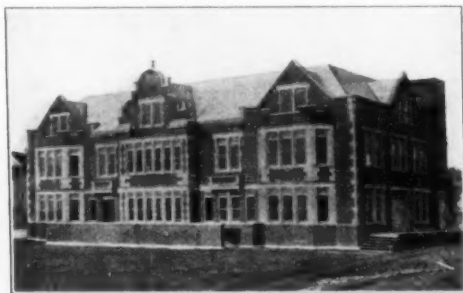


Fig. 12. Office Building of Willis & Baumer Company.

Syracuse, N. Y.

Three similar masses. The one in the middle slightly larger than the side masses.

dination in one dimension, superiority in another.

If the central tower could be increased in width, so that it might be somewhat wider than either of the gabled masses, for which it would be necessary to increase the total length of the front, and if it could also be set back almost to the face of the main building, we should have the skeleton of a satisfactory design.

This sin of contradictory subordination is also a sin against the rule of proportion, that the higher any part is in comparison with others of the same order, the wider it must necessarily be, in a ratio approaching an arithmetical proportion. Thus, if the tower up to the



Fig. 13.

A composition of three masses, of similar character and upon the same plane. The turret attached to the central gable, also the octagonal bay, are subordinate masses and might be omitted without destroying the general composition.

cornice is one-tenth higher than the flanking masses up to the base of the gables, it should also be one-tenth wider than they are, instead of much narrower, as it now is.

There is, moreover, a lack of proportion between the gables and the rectangles upon which they stand. A gable of high pitch looks well upon a mass that is tall and comparatively narrow, while a low-pitched gable, such as these are, still more a gable depressed to the pitch of a pediment, always looks out of place and not in unity with the rest of the design.



FIG. 14. TERMINAL STATION, WASHINGTON.

A composition of three masses of similar character and upon the same plane or nearly so.

We still have the peculiarly offensive roof of double curvature of the central tower. Why does it look so badly? Double curvature in itself is not unpleasing: witness the graceful Arabic and Turkish domes. The only reason, apparently, is that it is lacking in similarity with the angular plan of the tower. All the bulbous Moorish domes stand upon bases either circular or polygonal, approaching the circular in plan; nor have I been able to find a pleasing example of a roof of curved outline upon a base that was not curved or polygonal in plan.

I have said above that the central tower should be set back of the plane of the two side masses, but I must confess that my mind is in great obscurity upon the general question as to the planes of the masses in a group of three.

It would appear perhaps that when the three masses are in the same plane, or nearly so, they must be similar, as in Figs. 12, 13 and 14, while, when they stand on different planes, they may be either dissimilar, as in most domed churches, or similar, as in the three towers of York Minster. It would seem also that the more nearly they stand on the same plane, the more nearly they should approach each other in size; while on different planes the central may dominate the more the farther its plane is removed. But, as I have said, I am not sure on this point, and submit it to thoughtful minds as one of the questions upon which they may reflect.

Fig. 15 is another aberration which

was roundly abused by the critics at the time it was built, many years ago. Now that it is about to be pulled down and to vanish forever, we may write its epitaph in less flattering words than epitaphs usually are carved. The fundamental error in this design, setting aside the coarseness and bareness of the detail, setting aside, too, such manifest solecisms as the extraordinary arrangement of columns and brackets and pediments which is supposed to carry down the lines of the tower, the fundamental error is not the way in which it is done, but the fact that an attempt is made to introduce a tower at all.

If a tower is absolutely required, then the mistake lies in making the horizontal lines so strong, thus mixing up a possible horizontal treatment with a possible vertical treatment. A horizontal treatment I have called that in which the horizontal lines are most strongly marked, a vertical, that in which the vertical lines prevail.

The example before us is naturally adapted to horizontal treatment, for the reason that the whole lot must be occupied; the space is all required for what goes on inside, and the land is too valuable to permit the setting back of certain portions in order to obtain strong vertical lines. Nevertheless, the designer seems to have had some notion of a vertical treatment lurking in his brain, for in addition to the futile tower, there are slight offsets toward each side, hardly noticeable until we look at it closely.

Had it been possible to follow these

out by giving them a definite projection and crowning them with some suitable top above the main cornice, we should have had with the central mass a group of three masses and a satisfactory foundation for a coherent design.

The really practicable treatment would be to omit the tower entirely and the slight breaks toward the sides as well, giving to the whole a horizontal treatment. Imagine this done, and the design is at once "quieted," the "restlessness" is gone, though it may still be in need of much more combing and hairbrushing.

What designers call "restlessness" will usually be found to mean this confusion of the vertical and horizontal motives. It exists wherever a single vertical object is placed upon or alongside a building of which the main lines are strongly horizontal, as is done upon almost every corner grocery, where above, the main horizontal cornice, is set some kind of a turret, or perhaps the turret is carried down to the ground to form a round corner to the building, with a vertical break on



Fig. 15. Union Dime Savings Bank, New York.

The cause of this aberration is the antagonism between the horizontal and vertical treatment, neither one nor the other predominating.

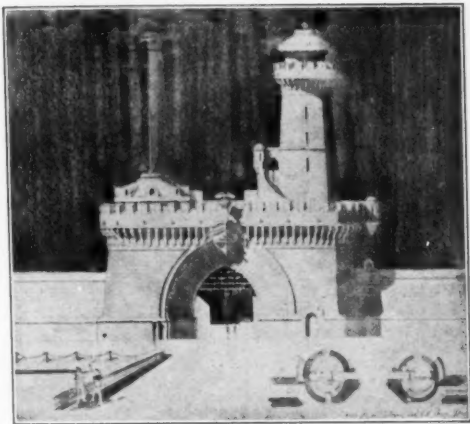


Fig. 16. Entrance to a Navy Yard.

The same antagonism exists between the horizontal and vertical motives as in Fig. 15.

each side where the flat wall joins the curve. In either case there is a painful clash between the vertical and horizontal motives.

In Fig. 16 is another example of the same error, although this is a school drawing that obtained the distinction of a "mention." Here, again, the trouble lies in the antagonism between the heavy horizontal cornice and the vertical tower that stands on top of it. Cover the tower with your thumb, and what remains is meritorious enough. Or, without omitting the tower, if the main cornice could stop when it comes to the tower and not run around it, being much diminished at the same time, the design would be more coherent, the tower then constituting a single mass, with the horizontal part attached as an appendage. Or if the tower were made the leading motive, and the second tower on the left, now merely rudimentary, were increased somewhat in height, the massive cornice entirely abolished and the gateway reduced to a bridge connecting the two towers, we should have a group of two unequal, but similar, masses, connected by a link, a perfectly coherent vertical motive.

How important it is that the two towers, or two masses of whatever kind, should be similar in character, though different in size, is shown in Fig. 17. The large tower on the left is pleasing and

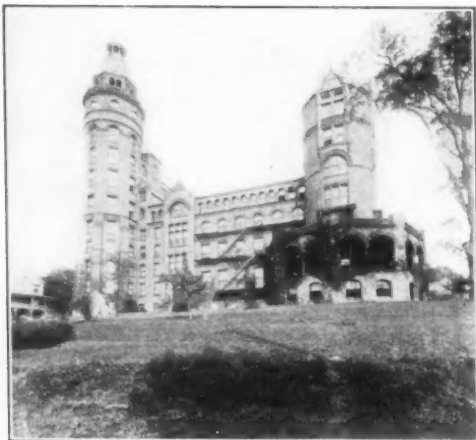


Fig. 17. Webb Academy, New York.

The unlikeness of the two towers detracts from the appearance of what would otherwise be a pleasing composition.

adorns the landscape from a distance, and the building, as a whole, would be fairly satisfactory if the smaller tower on the right had been finished with the upper part more nearly like the other. It may be mentioned that the photograph does not show the building at its best, as the distortion caused by the elevation of the site exaggerates and deforms the nearer parts.

Fig. 18, however, shows an unmistakable aberration, and from the same cause—the unlikeness of the two towers. Make them alike, and the design will be pleasing; as it is, no one could plead for it. Not only are the towers dissimilar, but proportion is here again outraged, in that the narrow octagonal tower is as high as the square one; in fact, it looks a trifle higher. Cut it down about a fifth of its height, and the general appearance will be improved; then make it square, instead of octagonal, or, if you prefer, make both octagonal, and you will again have unity; but the unity of two unequal, instead of two equal, masses, of which there are abundant examples everywhere.

It is by such methods of comparison that I have made certain generalizations and stated them as brief formulas. Anyone, by observation, may do the same, and may reach the same or other conclusions. It matters little in just what words the conclusions are phrased: the important thing is that there should be some conclusions, that architectural composition itself and the criticism of such compositions should be brought from the purely arbitrary methods hitherto used, and reduced to some semblance of order.

I am strongly inclined to suspect that the same rules will apply to all kinds of art, or possibly broader rules, comprising these as special cases; and I have shown examples of their application to painting. My acquaintance with other arts is not sufficient to permit me to include them all.

John Beverley Robinson.



Fig. 18. Gateway, Cairo, Egypt.

Another example and a far more flagrant one, showing the unpleasing effect of connecting two dissimilar masses.

Utilitarian Architecture at Chicago

I.

The questions that a few years ago agitated the Architectural League of America and at one time came near precipitating a new "battle of the styles" between opposing camps, are beginning to show signs of settlement in the middle west; not as the result of argument, but, as might naturally be expected, of evolution. In the shibboleth of one party—"Function before Precedent"—there now appears to have been a prophecy. The evolution that is now evident has not been in the gradual modification of preceding styles, though there has also been considerable of this of late, but it has been largely manifest in one class of buildings in which is seen the willingness of investors in utilitarian property to give it a distinctive and attractive character, within the bounds of economy. This has encouraged architects to give serious study to the design of such buildings, when before, four common brick walls with the necessary holes in them for light and entrance, skylights on top and coping to protect the top of the walls from the elements were the only essentials in the design of the exteriors of warehouses and manufacturing buildings if such can be called "design." Evidences are seen, not only in Chicago but at other manufacturing and commercial centers, of the recognition by business interests of the value of good materials and workmanship and appropriate design following the functions of buildings required for business purposes.

It would be unfair to these interests to say that designs were forced upon them by architects where before the four common brick walls of the "honest contractor" were considered to be the only essentials for such structures. The value of good building and appropriate architecture is being appreciated even by those who build only for profit, and it is in this class that a revival of architecture for all classes of buildings must logically be expected. Further-

more, no permanent revival can be expected except where it is accepted and appreciated by the public at large, as seems to be now the case.

It will not do to give too much praise to the architects who are credited with their part of this advance in the design of unpretentious business buildings. Time was when architects were too fond of grafting upon utilitarian buildings architectural details which had no relation to the purposes to which they were to be devoted. They used to be smuggled into the plans with the hope that the owner would not detect them. The result was dissatisfaction. Architects were accused of advertising themselves at the expense of their clients, and they were punished by being given the "cold shoulder" in succeeding operations. Sometimes the owners were the ones who sought to advertise their business by erecting pretentious buildings on sites of considerable prominence. They generally succeeded only in securing a lot of cheap and meretricious ornament ill-suited to the purposes of the buildings. They were failures from every point of view.

But within recent years the general dissemination of architectural education and the consequent acquirement of good taste by American architects, has enabled some of them to give rational expression to utilitarian buildings which it has fallen to their lot to design. These have not failed to attract the attention of other investors, who have seen in them an expression of the functions of the buildings without unnecessary expense, very different from those heretofore covered with meretricious ornament.

The public are now able, through what has already been accomplished, to appreciate the difference between a building erected with plain materials, whereon are displayed a few details derived from the historical styles, native only to monumental buildings of great cost, and

one in which the materials and workmanship are of good and lasting character, devoid of all ornament, but relieved from monotony by the best disposition of its parts to express its function. Such a building as that last mentioned is always attractive by its good proportions alone. The only item of increased expense is found in the better quality of the principal material used on



Fig. 1. Kling Bros. & Co. Clothing Factory. Chicago. Nimmons & Fellows, Architects.

its exterior. For illustration, whereas, what are universally known as "common bricks" were formerly used on outside walls, a better quality, but not the most expensive, known as "paving" bricks are generally used. Of these there are many kinds and colors, according to the conditions and facilities of the locality in which the building is erected.

It must not be forgotten that investors erect such buildings only for profit, and if the architect indulges his fancy beyond the necessity for making a paying investment it is very likely to be fatal to his future practice in such specialties. If a considerable number of investors had not appreciated the fact that good design carried to a certain point was a good investment we would see no more of it. But enough has already been done to lead to the reasonable presumption that a rational style has already been conceived, call it what you will.

Chicago is very near the center of such a movement, but is not the only place in which it has been manifested. The number of new buildings of this character cannot be stated with any accuracy, but probably up to the present time as many as one hundred manufacturing buildings and offices connected therewith have been erected in that city and its vicinity, which give evidence of rational design and common sense construction. A great number of them, probably a majority, are fire-proof. When built for rental purposes they are attractive to tenants and are quickly occupied. Many others are now in process of construction.

In addition to manufacturing plants the same character is given to what are comprised in the class known as "wholesale" buildings in the heart of the city. In the latter class great economy has been accomplished. Whereas before it was considered necessary to give them an "architectural" character by the use of cut stone ornamented with details derived from the historical styles, now the honest paving brick is in evidence, with a limited amount of terra-cotta. Colonnaded first stories are disappearing and iron is little used except for interior construction.

To illustrate to a slight extent the progress of this phase in modern architecture is the main purpose of these articles. Whatever the evolved style in their design may be, it can not be named. It is neither the "new art" of Germany nor the school of certain architects in the Middle West who have done so much good and original work in recent

years in the design of buildings for other than business purposes. It is only in sympathy with them in its negation of so-called architectural "precedent."

It would be an injustice to many of the most accomplished architects of Chicago and the Middle West to claim that the buildings here illustrated show all the progress that has been accomplished in the design of utilitarian buildings within recent years. There are those who adhere to the precedents and still have done much useful work in which the old predilection is seen. But their work in this field is noted for its sobriety and a strict regard for the value



Fig. 2. Railway Terminal and Warehouse Building.
Chicago. Nimmons & Fellows, Architects.

of good and plain materials, and admirable proportions, while it betrays the old love in details which the professional expert only can detect. But this also is evolution, and something very different from what we used to see ten and twenty years ago. A few of these also will be illustrated.

Up to the present time there is no evidence of this field being invaded by the cheap and ignorant imitators. Every new movement in architectural design in America that has attracted attention has been parodied by imitators who have seen nothing in it but external manifestations. Ignorant designers, without understanding its meaning, and

consequently without sufficient appreciation or knowledge to join any new movement in architectural design, when the opportunity falls in their way, regard it merely as a fashion and attempt, always without success, to reproduce only their external details. This was seen in the early part of the nineteenth century when the classical Greek and Roman buildings designed by Bullfinch, Latrobe, Hoban, Hadfield and others were so extensively and untruthfully copied in the many large residences built throughout the Southern states and public buildings in the North. These were generally wood and plaster shams in which the Greek and Roman details gave no evidence of the authority found in buildings of the Ancients. The attempts of a few earnest students of Mediaeval Art to follow the Gothic revival in England were also parodied to such an extent in the latter part of the nineteenth century that the true and the false work were confounded in the eyes of all who were not sufficiently versed in the movement to distinguish the one from the other. This kind of weak imitation was called "Victorian" in England and "Eastlake" in this country, and such the uninformed observer understood them to be. Even the robust work of Richardson and his pupils founded on the Romanesque of the eleventh and twelfth centuries was ignorantly copied by ignoramuses until it became nauseous to those who had accepted and admired the work of the master.

But the increase of academic education in the architectural profession of recent years has been accompanied by a decrease in the number of ill-informed architects who have no pride in anything but getting the job, being "up to date" as they vulgarly say, and getting all they can out of it. Popular appreciation of the appropriateness of architectural design to the building to be created is becoming evident through the influence of the *Architectural Record* and other publications, not strictly technical, which have done so much in recent years to popularize this art. The intelligent critic is abroad at last, and the public are beginning to realize the difference

between the good and the bad through the dictates of reason, if not always as the result of technical education.

The illustrations offered are given without extended descriptions. They will at once be recognized as different from the common run of such buildings.

they are the results of co-operation between architects and clients and a desire to work together for the solution of practical business propositions in the interest of those who have to pay the bills. I have the best reason for saying that these buildings have been erec-



FIG. 4. ENTRANCE TO OFFICES OF W. M. HOYT CO.'S BUILDING.

They are none of them beyond criticism. As a whole they may be regarded as footsteps in the progress of our art and as earnest efforts of a number of persons to emancipate themselves from scholastic rules made by older generations with whom we have little in common. But if they are nothing else

ted to the satisfaction of their owners; even that they take pride in them. To the public they are evidences that a little art is appropriate everywhere, and that architecture does not pertain alone to public monuments and the houses of the rich, but that it has its field in the domain of business and in places where



Fig. 3. Wholesale Grocery of the W. M. Hoyt Co.
Chicago. Nimmons & Fellows, Architects.

formerly was only dreary monotony and shabbiness galore.

The movement has invaded localities heretofore regarded as most uninviting to architects. As such it is becoming a civilizer that is literally making the waste places to bloom. Where heretofore the workman approached the forbidding walls of the prison-like structure in which all his hours of toil were spent, he now beholds a vicinage suggesting cheerfulness and contentment which are of no small educational value. There is some prospect that a "factory neighborhood" will not always be a blot on the map of an industrial municipality. In such places a little art goes a great way.

The readers of the Architectural Record have already been given illustrations of several manufacturing plants and business buildings distinguished for rational design, the result of thorough



Fig. 5. Federal Cigar Co.'s Building.
Philadelphia, Pa. Nimmons & Fellows, Architects.

study on the part of architects and co-operation with their clients. They have been drawn from cities far apart, but still are illustrations of what has herein been said. Those here given are mostly from one city and show what may now be considered as a movement in one direction that has added importance on account of its having been the work of many persons acting almost simultaneously.

The architects who have had the largest and longest experience in the erection of manufacturing buildings at Chi-



Fig. 6. Cracker Jack Building.
Chicago. J. C. Llewellyn, Architect.

cago are Nimmons and Fellows. They are credited with having been the first to introduce the "saw-tooth" roof on factories, giving north light through nearly the entire roof space. Such roofs were originally used for one story factories covering large areas. They are now used also on roofs of buildings of many stories in which the upper story is reserved for processes requiring the greatest amount of light attainable. The exterior designs of their factories have been an evolution in their own practice from conventional to unconventional design. One of the latest here given (Fig. 1) is a clothing factory at 291 Fifth avenue, in the wholesale district. It has one finished front only, because on one side it is built to the lot line, and on the other it takes light from a

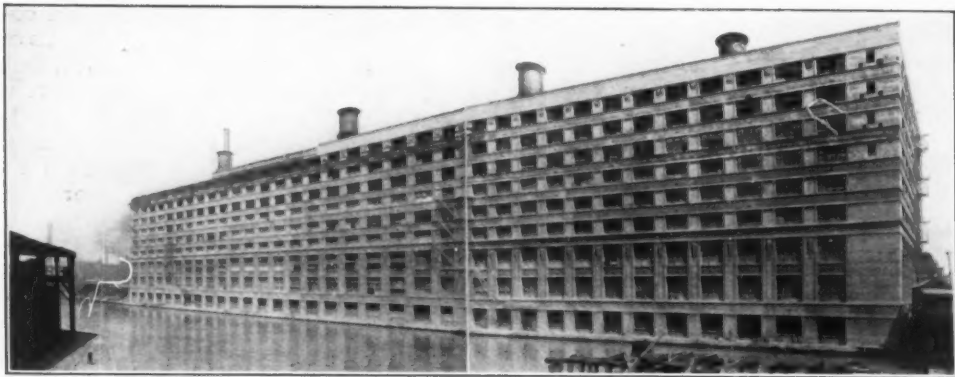


FIG. 8. MONTGOMERY, WARD & CO.'S MAIL ORDER STORE AND WAREHOUSE.
Chicago: River Front. R. E. Schmidt, Garden & Martin, Architects.

narrow alley. It is expected that this will be eventually obscured by a higher building than that seen in the illustration, which it is interesting to note is a wholesale store of the unconventional type of design that was in vogue about twenty years ago. The contrast between the two is therefore of interest as showing the advance from one form of rational design to a later one. The interior of this building is of reinforced concrete construction.

The Railway Terminal and Warehouse building, shown in Fig. 2, is located at Kingsbury and Indiana streets in a district destined to be built up exclusively with warehouses and factories of similar type. It is of heavy mill construction throughout. Two buildings are here seen. The front to the left, not seen in the illustration, faces on the Chicago river. This building is the headquarters of the Chicago Lighterage Company which transfers freight on the Chicago river. Part of it will be used as a bonded warehouse. Much daylight was not considered essential in the upper stories and small windows are used because goods are piled against the exterior walls, and the windows give light only to passage ways.

The third illustration is taken from a drawing, because the building is so large that a photograph could not be taken from one point to show the whole of it. It is a wholesale grocery building for the W. M. Hoyt Company at 22nd and

Grove streets. It is one of the wholesale groceries which have recently been migrating from the business center to points where water and rail transportation are brought directly to their doors. Buildings of this character stand free and all the exterior walls are similarly designed. This one has an average of 50,000 square feet on each floor. When



Fig. 7. H. M. Hooker Co.'s Paint and Glass Warehouse.
Chicago. J. C. Llewellyn, Architect.



Fig. 9. Spiegel-May-Stern Co.'s Office Building.
Front View.
Chicago. Alfred Alschuler, Architect.

these large establishments move away from the business center they do not maintain downtown offices, but make extensive and sometimes elaborate provision for offices in their warehouses, and in some cases erect separate buildings for office purposes. Those of the Hoyt Company are in their warehouse and have quite an imposing entrance (Fig. 4). No goods are handled on that side of the building. The interior construction of this building is reinforced concrete and the exterior walls are of dark red paving brick and terra-cotta. Two railroad tracks enter the building in the rear and provision is made for receiving and shipping goods by boats on the river, which adjoins the building on the right of the illustration. (Fig. 3.)



Fig. 10. Spiegel-May-Stern Co.'s Office Building.
Interior View.
Chicago. Alfred Alschuler, Architect.

It may not be inappropriate to give here an illustration of one of the utilitarian buildings designed by Nimmons and Fellows, which is not in Chicago (Fig. 5). This is the building of the Federal Cigar Company at Washington and 12th streets, Philadelphia. It is used for the manufacture of cigars and the offices of the company are in the building. The entrance to the latter is



Fig. 11. Tulane Building.
Chicago. Pond & Pond, Architects.

indicated at the left of the picture by an entablature which gives it more prominence than the other openings. The team entrance is at the extreme right and there are two more street entrances for workmen. This building depends almost entirely for its effective perspective upon its good proportions, the locations and size of all the openings giving evidence of careful study. An added and unexpected effect is due to

the reflection of light from the glass prism windows above the first floor.

Two illustrations are given of the work of Joseph C. Llewellyn. Fig. 6



Fig. 12. Toll and Long Distance Building of the Chicago Telephone Co.
Pond & Pond, Architects.

is called the Cracker Jack building because it is the home of Rueckheim

Brothers and Eckstein, owners of the copyrighted name which protects that firm from infringement in the manufacture of the article so dear to the youth of America. It is located at Peoria and Harrison streets and is one of the manufacturing plants which are invading one of the worst slum districts of Chicago. In the erection of this building the least possible amount of stone has been used. This is a characteristic of Mr. Llewellyn's buildings, seen also in Fig. 7, wherein the most careful study is given to the effect produced by one kind of paving brick with varied projections, and the best disposition of the window and door openings. In the Cracker Jack building the only "effect" is found in the office entrance, on the right hand side. The water tank is properly covered. The second building, which is a paint and glass warehouse for the H. M. Hooker Company at 128 Washington Boulevard is not as successful as the first. The projecting cornice is good as far as it goes, but it does not go far enough. The very fact that it is stopped off after returning a short distance on the court side, shows that, if not necessary beyond that point, it might have been dispensed with altogether. Projecting cornices are pretty well demonstrated to be unnecessary appendages to business buildings by their scarcity in all the well designed buildings used to illustrate this article.

Montgomery Ward & Company's new mail order building on the north branch of the Chicago River, now nearly completed (Fig. 8), is built entirely of concrete, including all of the exterior walls. Its enormous length, 729 feet, about the same as that of the U. S. Capitol, has not been concealed by any device in designing it, but has rather been intensified. Naturally its owners were filled with pride at the satisfaction of having a longer building than anyone else, and did not mind if it were stretched a little. This is done by placing continuous projecting sill and cap courses in each story and making all the windows wider than their height. These continuous courses are omitted at only one floor line, which gives emphasis to the

second and third stories. The completion of the nine stories has now made the building high enough to justify all these devices. The design of this building should be credited to Schmidt, Garden & Martin, as the firm is now styled, Mr. Martin doing the engineering work.

Alfred S. Alschuler makes a specialty of buildings of the utilitarian type. He is the regularly employed architect for the Central Manufacturing District. This must not be inferred to be in the center of the city. It is the corporate name of a land company which controls



Fig. 13. Factory of the Pelouze Scale & Mfg. Co.
View from Southwest.
Chicago. Hill & Woltersdorf, Architects.

a district at least six miles from the center of the city and about half a mile square, all of which is to be improved with buildings of a similar character. It extends from 35th to 39th streets and from Morgan street to Ashland avenue. Already several large buildings have been erected and others are in course of construction. The illustration of Mr. Alschuler's work here given is the office building of the manufacturing concern known as the Spiegel-May-Stern Company and shown in Figs. 9 and 10. It is on 35th street between Morgan street and Center avenue, and in the Central Manufacturing District. It is constructed of reinforced concrete with an exterior of paving brick. The building stands free from all connection with others, but is less elaborate on the other sides than on the 35th street front. This



Fig. 14. Laboratory of Thomas J. Dee & Co.
Assayers and Gold Refiners.
Chicago. Hill & Woltersdorf, Architects.

front is a careful study of brick design, but in the cornice and entrance details, which are of stone, is reminiscent of some of the Renaissance forms, showing that Mr. Alschuler has not abandoned them entirely. The refined taste of the occupants is shown in the flower boxes on all the front window sills. The building from the first floor up is in one room, with galleries. The lighting of the outside zone is by windows in the



Fig. 15. Office Building of Brown Bros.
Mfg. Co.
Chicago. Hill & Woltersdorf, Architects.

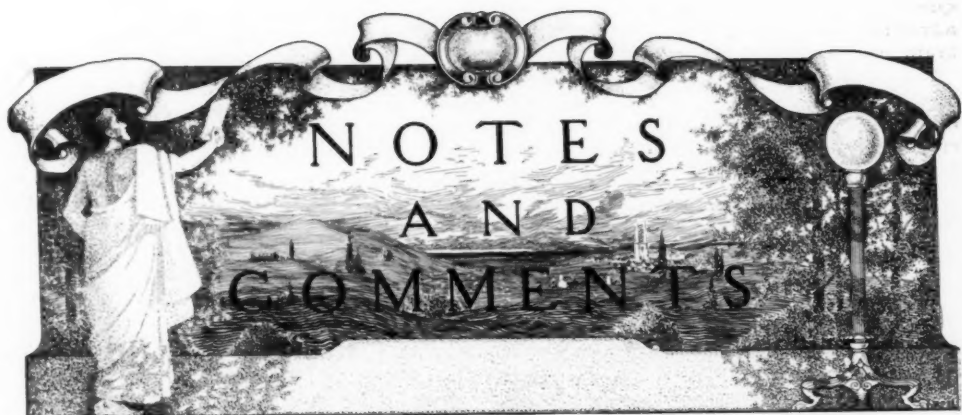
first and second stories. But the entire central section as well as the inner part of this zone is lighted from saw-tooth skylights ranged across the roof and continued the whole length of the building, giving a north light and excluding all sunlight. This light is transmitted through a glass ceiling. It is shown in Fig. 10, which is a view of the office showing the details of its arrangement. This kind of office arrangement was first used in the Larkin Building at Buffalo, designed by Frank Lloyd Wright. But Mr. Alschuler has made many improvements on it. The piers and girders are all of reinforced concrete.

Some of the best utilitarian buildings of recent construction are by Pond & Pond. Among those of the factory and warehouse class is the Tulane building on Jackson Boulevard near Halsted street, shown in Fig. 11. Jackson Boulevard west of the Chicago river for about one mile runs through the West Side manufacturing district and its character is rapidly being changed by the erection of buildings for utilitarian purposes. This building is remarkable for the simple and direct manner in which the lines of construction are developed in the front, and the way in which the entrance stairway and elevator part are indicated, needing no description for those who appreciate plain statements of fact. The second building of Pond & Pond is shown in Fig. 12, occupying the center of the picture. It is the Toll and Long Distance building of the Chicago Telephone Company, on Franklin street near Washington street, and is in the downtown district. On the right is seen part of the original building of the company erected about twenty years ago from the designs of Mr. Silsbee which is of pressed brick and stone and constructed interiorly of steel and hollow tile. It extends to Washington street. One the left is one of the city's fire stations. In the front of the Toll and Long Distance Building is seen the same rational treatment of the entrance section shown in the Jackson Boulevard building. The interior is of steel and tile fireproof construction.

Hill and Woltersdorf have designed a large number of manufacturing buildings as well as independent office buildings connected with factories. Among the former is the factory of the Pelouze Scale and Manufacturing Company (Fig. 13) on East Ohio street in a new manufacturing district near Lake Michigan and north of the main Chicago river, which is becoming famous for the good design shown in the improvements. This building stands free and is finished practically the same on all sides. This firm of architects not only employs paving brick but introduces a large amount of cast concrete on its exteriors, as shown on this and other buildings to be mentioned later. The natural Indiana limestone is used only for water tables and window sills. They have had considerable experience with isolated office buildings connected with factories. Of these one is shown in Fig. 14, which is a front view of the office of the Brown Brothers Manufacturing Company at 22nd street and Campbell avenue. This front is of paving brick with cut stone trimmings. The sign of the company is executed in cast concrete. The entrance is made of cast iron. The company, which among other products is noted for its very fine castings, desired the design of an entrance which they could execute for themselves, and the architects designed this entrance making it as nearly appropriate to the building and the material as circumstances would permit, and the result here seen requires this explanation.

In Fig. 15 is seen a manufacturing building of another kind which did not require great size, also by the same architects. It is a Laboratory building for Thomas A. Dee and Company, gold assayers, and refiners, also located on Ohio street. Working departments and offices are all included in the building which is complete in all its appointments. The exterior, finished on all sides alike, is of brick with trimmings of stone and cast concrete.

Peter B. Wight.



**IS THE
ARCHITECT
A POLYTECH-
NICIAN ?**

It would be difficult to conceive of any act more injurious to the profession of the architect than the promulgation of a doctrine which amounts to saying that he professes to know all about everything pertaining to building construction. Nothing could more inaccurately state the function of the architect and nothing could be more absurd as a statement of fact. However groundless such a claim is, it has unfortunately been made by implication by some members of the profession and has gained a considerable foothold in this country.

It does not seem plausible that any architect in good standing could consider himself true to his professional principles and pose before his clients as a trained engineer, a specialist in various mechanical professions as well as an expert in the building trades, the services of which are enlisted in executing his designs. With these activities, to master each of which requires an individual's entire energies, the architect can, of course, possess only such a passing acquaintance as will enable him to understand the specialist's explanation, to ask pertinent questions and to choose the most advantageous alternatives for his purpose. Anything further which the architect attempts in an alien profession or trade, as Professor Ware says on a previous page in this issue, "he cannot hope to do more than passably, after the manner of an amateur."

"But amateur work is not what his clients want and he ought not to put them off with it."

**A SUBJECT
FOR
INVESTIGATION**

It would be an injustice to the practical common-sense of American architects to assert that they are responsible as a body for the false position in which some of their number have placed them. On the other hand, it may be emphatically stated that they are not doing everything in their power to discontinue such an attitude which can only bring their calling into disrepute as it exhibits its absurdity. We fail to find in the recent "Circular of Advice Relative to Principles of Professional Practice and the Canons of Ethics," of the American Institute of Architects any direct mention of the architect's relation, in the way we suggest, to other professions and the building trades. Section 4 of the Canons of Ethics of this circular makes it unprofessional for an architect to advertise. Is it not equally unprofessional for an architect to imply to his clients by his actions that he is a fully qualified structural, heating and ventilating engineer and a master mechanic of all the building trades? We think so. Advertising of certain kinds may conceivably affect the dignity of the profession, but a presumption to possess knowledge which is not his affects something more fundamental, it affects the integrity of his position as the client's pro-

fessional adviser. Such a course persisted in by an architect would be more potent to make of him in the eyes of the public, a quack of the first order, than any excess of advertising which the most unscrupulous brain could conceive.

The architectural bodies of the country owe it to the profession to look closely into this matter and to sound a warning to those straying ones who have permitted themselves to assume what is not rightfully theirs.

A HISTORY OF ARCHITECTURE*

When the unexpected death of Russell Sturgis was announced in the spring of 1909, the first volume of his *History of Architecture* had been issued but a short time previously. There was then a general anxiety among his readers as to whether or not the succeeding volumes would follow. The appearance of the first volume had been long delayed. But it was not known, except to a small circle of his friends, that he had been in declining health for several years, though no one expected that his life would so soon come to an end. The great work of compiling and correcting all the material that had been prepared for the first volume was, however, telling upon his already enfeebled body, and was the cause of the tardy appearance of volume one.

When, after his death, it was announced that volume two was practically completed and partly in type, there was a general feeling of satisfaction. This material was turned over to his son D. N. B. Sturgis, assisted by Prof. Arthur L. Frothingham, whose valuable advice and assistance in correcting the proofs has made it possible to issue the second volume with great promptness. These two volumes, therefore, as now completed, will always be known as the last and greatest achievement of his literary and professional life. It is no less satisfactory also to know that Professor Frothingham is to continue the work to its completion, and is now working on the third and last volume. When complete, this undertaking will be known as the joint work of the two. That Mr. Sturgis had pretty thoroughly made up his mind as to much of the matter to appear in the

third volume is apparent to any one who reads the second. He is constantly referring to matters to be treated in the third, even slight matters of detail, when they will appear in their proper chronological place, imposing a no small task upon his collaborator and successor, but at the same time furnishing valuable assistance. There is no doubt now that this will be fulfilled faithfully and accurately as is anticipated in the publishers' circular which has just been issued, and from which we quote as follows: "The publishers have consequently been highly gratified to secure the services of Mr. Arthur L. Frothingham, late of the Princeton faculty, for the preparation of the third volume, for which he will have the invaluable assistance of Mr. Sturgis's notes. It would be difficult, indeed, to find any one so well equipped to complete this monumental work as is Mr. Frothingham, who has devoted a life of earnest study to architecture and archaeology. Educated abroad, principally in Italy, he has long been active as a professor of architecture, archaeology and ancient art in Johns Hopkins and Princeton, has acted as a member of numerous societies of research, and has written extensively and authoritatively on architecture and kindred subjects. He is, moreover, thoroughly in sympathy with Mr. Sturgis's point of view, and we can therefore confidently assert that the completed work will present a unified and exhaustive history of the world's architecture from the earliest recorded periods to the present time."

The second volume which is before us now shows even a deeper insight than the first into Mr. Sturgis's understanding of the relation of architecture to civil and religious history, through all time. It bears the impress of having been his own work from first to last, and in it he has drawn liberally from some of his previous published books which now appear to us in the light of preparation for this last and monumental work. It is not easy in a few words to give his point of view as expressed in these volumes. It is only necessary to say that no history of architecture has ever before appeared in the English language that can even be compared with it. It does not pretend to describe or even mention all the important buildings which give reason for its being, and, therefore, it is in no sense encyclopædic. Typical buildings only are selected for illustration, both by word and picture. Being truly a history strict adherence is always given to a description of only that part of any building that is mentioned which belongs to the period under consider-

*In three volumes, by Russell Sturgis, A. M., Ph. D., author of "A Study of the Artists' Way of Working," "European Architecture," "The Appreciation of Architecture," "The Appreciation of Sculpture," "The Appreciation of Pictures," etc., and Arthur L. Frothingham, A. M., Ph. D., author of "A History of Sculpture," "Mediaeval Art Inventories of the Vatican," etc. The Baker & Taylor Company, New York.

ation. If later additions or changes are considered sufficiently important for further reference he refers to the third volume. An astonishing amount of investigation must have been required to fix the date of buildings erected, for instance, in that part of the middle ages, say from the seventh to the tenth century, the civil history of which is so little known. The evolution of style is traced wherever possible, and the author is always free to admit where it is in doubt. If he cannot give facts he says so candidly, and does not indulge in speculation. Another peculiar feature of Mr. Sturgis's treatment of the subject is the analytical method of explaining self-evident facts, as a result of his investigation of the structural methods employed in ancient buildings. This has been the natural result of his experience in architectural practice and his knowledge of the principles of construction and the nature of materials employed in building. The possibilities of the locality in which a building is situated for the production of building materials at a time when transportation was difficult and expensive has always been in mind.

His extensive travels have largely contributed to his ability to do this, and while much of any history must be compilation from the best authorities, it is evident that in this case a large part of the subjects treated in this volume have come under the author's observations.* It is known to the writer hereof that many of the illustrations have been accumulating since 1860, for some of them are from photographs and drawings that look familiar now after many years. He has even given the date of some of the photographs used as far back as 1858, and that that happens to be the year that Mr. Sturgis made his first visit to Europe after his experience as a draftsman in the office of Leopold Eidlitz, at New York. This material has made it possible to show many buildings as they were before more or less destructive restoration. In order that the reader may not be deceived by some of the illustrations he explains wherever necessary the nature and extent of such restorations as have been made and comments on their propriety or impropriety.

The subjects covered are Book VI., "Asia, apart from the Moslem Influence," comprising, India and Southeastern Asia, the Chinese Empire, Japan and Persia. Book VII., "The Styles Resulting from the Decline of

Ancient Art," comprising The Early Basilicas, Churches of Radiate Plan, The Byzantine Influence and Byzantine Monuments. Book VIII., "Moslem Architecture," comprising Moslem Syria, Egypt, Spain and North Africa, Persia, India and Sicily. Book IX., "The Developed Later Romanesque," comprising Italian, French, Norman and British, German, Spanish, Scandinavian, Armenian and Russian. Some of these have never before been treated in Histories of Architecture in the English language.

P. B. W.

MORE CIVIC WORK FOR ARCHITECTS

The long annual report of the engineer commissioner for the District of Columbia necessarily gives little space to the discussion of so small a matter as a public convenience station, of which Washington has only two—both on Pennsylvania Avenue. But there is probably an important significance in the few statistics. It is noted that upwards of two and a quarter million persons visited the two stations in the course of the year, and that while there was an increase of 15 per cent. in the total attendance over that of the year before, there was an increase of 60 per cent. in the fees received in the pay departments. This would seem to indicate that the stations are beginning to receive a class of patrons that at first held aloof and that they are taking their rightful place, in this country as they long have in Europe, as among the fit furnishings of the street—as real "public conveniences." The Washington report says that plans are in preparation for three additional stations; and there can be no question that in the near future architects are going to be much called upon to plan these stations for cities.

CITY PLANNING IN HARTFORD

The second annual report of Hartford's Commission on the City Plan has appeared. The reports are of special interest because this commission is the first to be established in this country as a regular and permanent branch of the municipal administration. The various questions that came before it, mainly concerning the opening, widening and extension of streets are described, together with the action taken. But the most generally in-

*Whenever authorities are quoted from the greatest care is taken to give them credit. This is especially the case with illustrations. References are copious, so that any student can pursue investigations further if desired.

teresting, and perhaps the most significant, part of the report is that in which it is stated that the commission, through the co-operation of the board of finance in making an appropriation, has engaged Messrs. Carrère and Hastings, of New York, as outside experts, to "report upon the development of Hartford in an intelligent and comprehensive manner." In other words, this commission, in spite of all the elaborate and interesting machinery underlying its establishment, has felt it necessary to do just what other cities that have no such commission do—viz., employ outside experts. But when the latter make their report, the commission will prove of immense benefit in securing the carrying out of the plans; and that is the point where other cities are most at a loss. Six pages of the report are given up to "Matters for the Advisory Architects to Consider," and though the list is supplemented by the statement that it is "not by any means complete" and that "many other questions will arise," one would like to have seen the faces of Messrs. Carrère and Hastings when they read it. The fee is modest and the time no doubt is short, but they are asked to advise on matters enough to keep them engaged for dozens of years.

CHESTNUT STREET'S CHRISTMAS EVE

There is an undeniable charm of old-fashioned dignity in the quiet residence streets of Beacon Hill in Boston. In repose and lack of ostentation they are not of the America we know to-day. And the story of the Christmas celebration in Chestnut Street, which is one of them, is delightfully reminiscent of another and gentler time. The residents have formed themselves into the Chestnut Street Christmas Association, for the perpetuation of a neighborhood Christmas custom, which is best explained by quoting the notice that was this year sent out to the people of the street:

Greeting: We again bespeak your good will and assistance in adding to the cheer of Christmas Eve by placing lighted candles in the windows of your houses between 6 and 10 at night, to the end that the hearts of passersby may be gladdened and that the day of good will and glad tidings may be fittingly commemorated.

Mr. and Mrs. Ralph Adams Cram.
Mr. and Mrs. Arthur Winslow.
Mr. and Mrs. Roger S. Warner.
Mr. and Mrs. Hollis French.

For the Chestnut Street Christmas Association.

The effect of a street lighted by candles in the house windows, with no shades drawn, is very pretty—as can be imagined; and an

added touch is given to it by the fact that parties of serenaders, lighting their way with Japanese lanterns, visit the candle glowing street on Christmas Eve.

A PROTEST THAT IS TIMELY

As so often happens at conventions, a somewhat casual remark, probably quite unpremeditated, was so received as to constitute one of the striking features at the recent annual meeting of the American Institute of Architects. It was the last day; the retiring president, Cass Gilbert, was presiding, and the subject of the paper that had just been presented was the relation of the railroad to city development. It was perfectly natural, after such a paper, that Mr. Gilbert should give expression to a protest against the common use of the term "city beautiful." "If I were disposed," said he, "to delay, interrupt or confuse the progress of city development, I would publish that phrase 'city beautiful' in big headlines in every newspaper. Let us have the city useful, the city practical, the city livable, the city sensible, the city anything but the city beautiful. We want a city sane and sensible, that can be lived in comfortably. If it is to be a city beautiful, it will be one naturally." His listeners—a body of architects who might almost be said to be picked as regards aesthetic standards—broke into unanimous and hearty applause. The event was certainly significant; and it probably is true that in the new city planning movement, the town planners have no such baffling and persistent handicap to fight against as the reportorial use of the phrase "city beautiful." The men who are doing most to make cities beautiful, long ago gave up the use of the phrase, for they found in this as in other arts the secret of beauty lay in adaptation to purpose and co-operative harmony of parts. The writer of this note left the room a few moments later, and crossing the lobby of the hotel happened to pick up the advertising "Gazette" of one of the trans-Atlantic steamship companies. At once his eye fell on the caption, "Making Cities Beautiful." It seemed an interestingly immediate verification of the need for protest. The article opened with these words, "City building in accordance with artistic principles is being reduced to a science in Germany. To-day scores of cities in the Empire are studying, planning and adjusting old to new conditions, with the

result that ugliness is being replaced by beauty, and the health, convenience and safety of the people very much enhanced." This is not a bad statement of the situation, if one takes the trouble to read beyond the title; and perhaps along with the protest there should be put forth some effort to explain what the beauty of a city properly means and how it is to be attained.

ART POSSESSIONS OF CITY OF NEW YORK

The catalogue that has lately been published by the Municipal Art Commission of works of art belonging to the city of New York is an exceedingly interesting,

and decidedly noteworthy, publication.

Following a brief historical introduction, and the usual indices, there is a catalogue of the paintings owned by the city, arranged in the order of their acquisition; then a catalogue of the mural decorations, and then one of sculpture, the latter grouped according to the borough in which it is. The catalogue of paintings gives the subject, the dates between which he lived—the paintings being all portraits—the name of the artist and the latter's dates; and then a brief description of the painting and the date of its acquisition. The catalogue of mural decorations gives their location, the title, the name of the artist, and his date, a description of the painting, and a record of the signature—which includes the date. The catalogue of sculpture names location, subject and, if it be portrait sculpture, his dates and a statement of his claim to fame; the artist with his dates, a brief description of the work and date of acquisition. Thus the arrangement, while not entirely uniform, is very satisfactory in convenience and completeness, and it will be a surprise to most persons to discover what a very extensive patron of the arts the busy commercial city of New York has been. The collection of portraits began, says the Introduction, in 1790, when President Washington was formally requested "to permit Mr. Trumbull to take his portrait to be placed in the City Hall." The series of governors' portraits was commenced in 1791, and is complete from Governor Clinton to Governor Dix. In 1804 the Common Council commissioned Colonel Trumbull to paint the portraits of "the chief magistrates of this city since the Revolution." Not only did the council thus commission artists, but it occasionally visited in a body a public exhibition of paintings, and sometimes—not even stopping at that—passed resolutions

urging the citizens "to avail themselves of an opportunity to improve their taste" by going to see some notable art work. The Common Council of Brooklyn began in 1834 its collection of portraits of mayors, and carried it on until annexation—in 1898. But patron of painting though the New York Common Council was, it was not until 1852 that it could be induced to expend public funds for sculpture. Nearly all the statues, monuments and fountains within the greater city have been gifts from its citizens.

HARMONY IN BUILDING

Referring to the recent discussion in this department, concerning harmony of architecture on streets, some interesting material has

been sent in. An extract

from W. Shaw Sparrow's new book, "The English House," goes so far as to present an argument for a public Board of Architecture, "maintained by the public and responsible to the public." Says the book: "Many a town has been turned into a patchwork of ill-assorted buildings only because the most public and necessary form of art is commonly treated as a matter for private speculation and for individual taste and fancy. . . . Whatever the restraints under which architecture is now carried on, the results are bad far more often than they are moderately good. No town building, therefore, ought to be put up until the designs have been approved by a Board of Architecture, this act of approving to consider the designs in relation to their site and surroundings. . . . When a street in its architecture tries to babble in a score of different languages, many right things may be found in the wrong places—a very true statement. The National Contractor and Builder of August 15th, called attention to an ordinance in Berlin, lately approved by the municipal authorities, giving power to refuse a permit for a new building on purely aesthetic grounds, even after the requirements regarding fire protection and sanitation had been satisfactorily filled. Under these regulations, the article says, "plans for new buildings and proposed alterations of any kind can be approved only in case they correspond with the general style and character of the surroundings. New structures must not impair the characteristic aspect of the street view of which they form a part. The neighborhoods of certain historic churches are especially designated" as places where particular care is to be exercised. The hampering character of such restrictions as these, actual or proposed, is not

likely to be the most favorable stimulus to architecture; but it is clear that a good deal of serious thought is being given to the subject of securing harmony of construction on city streets, the indirect influence of which is sure to be beneficial.

**TRIGGS
ON
STREET
ARCHITECTURE**

Possibly the most satisfactory discussion of the subject of harmony in adjoining buildings is to be found in H. Inigo Triggs' recent volume "Town Planning—Past, Present and Possible." "Street architecture," he remarks, "is social architecture, and ought surely to conform to those rules of convention by which all society is governed. It should not be possible for any one freeholder to erect some vulgar monstrosity as an advertisement, when by such building he entirely destroys the artistic harmony of the street. There is an ever-growing need for a cultured and wide censorship. . . . There is as yet no sufficient standard of public taste to entrust such censorship in the hands of public officials, but with such a number of societies devoted to the encouragement of the fine arts existing throughout the kingdom, there should be no difficulty in obtaining expert assistance to form committees of advice. "The subject," says Professor Beresford Pite, "is one of great difficulty and complexity, and unless the control is in the first place wisely directed, in the true interest of successful architecture by highly competent hands, and in the second is so entirely firm by enactment and covenant that it cannot be broken away from, the experiment will not be successful." Triggs adds: "The first question with regard to street architecture which we have to ask ourselves is, How far is it desirable to insist upon architectural uniformity and symmetry and to call upon owners to conform to any general style of building? The question is one in regard to which it is not easy to formulate any principle that will equally suit all classes. Style in architecture is largely a matter of fashion; thus a century ago it was generally accepted that a street should form a design as a whole, and we had in London such examples as Regent Street, the Adelphi, and many other streets. As the nineteenth century progressed, the Gothic Revival movement led the sympathies of architects and artists to favor a more picturesque treatment. Now we have for some years shown a marked tendency to return to classic forms." His

own judgment is then given as follows: "There are some positions, as, for example, a street leading to an important architectural termination, a circus or a geometrically laid out curve, when a great deal is to be said in favor of the uniform treatment of the whole in subordination to one design. The sweep of a curve, seen against the skyline, should be unbroken, save by small details such as chimneys, and in this case a symmetrical treatment of the street façade is the only one likely to be successful. The beauty of a circus or quadrant depends entirely upon the surrounding buildings being kept at one uniform height. If it is not so treated, the best quality, the continuity of the curved line, is lost. Again, when a street is of more than average width, is not very long, and is to be occupied entirely by buildings of one class, a uniform design gives a dignity which no other treatment can impart. Where it is decided to adopt such a uniform scheme in a street of business buildings, the objection that is generally made is that here and there an elevation may be provided which is unsuitable to the requirements of the tenant; but this is a difficulty that would occur whenever the property was vacated, and yet buildings are not pulled down to suit each successive tenant, and in these days of short leases such consideration should not be allowed much weight, when the question is one of spoiling a scheme that depends entirely upon the continuity of its architecture. To preserve a symmetrical effect it is of course not essential that each building should be an exact repetition of its neighbor. Rather, an effort should be made to obtain a symmetrical arrangement by blocks of similar design, and monotony of detail should be avoided by minor variations in the elevations without destroying the design." But his conclusion favors in general picturesque-ness. He says: "With the exceptions indicated, the picturesque variety of architecture that characterizes our modern streets should not be discouraged. In what may be termed ordinary streets, which do not demand a grandiose effect, an irregular is often preferable to a regular treatment, and is more expressive of the needs of the street, especially if it be a business one. Again, where a street is comparatively narrow, the architectural treatment as a complete design can hardly be a success, as it can never be seen as a whole. In positions dominated by some ancient Gothic building a straight uniform treatment would be quite out of character."

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